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ABSTRACT

Offering voices and perspectives from multiple generations of literacy educators, this yearbook includes articles which represent an assortment of literary styles and paradigms. Articles and their authors are: "Motivation Matters" (L. B. Gambrell, keynote address); "The Use of Cloze as a Measure of the Interactive Use of Prior Knowledge and Comprehension Strategies" (V. Ridgeway); "The Effects of Unfamiliar Words on the Processing of Propositions in Connected Discourse" (R. Reese); "Reading from the Rear View Mirror" (J. Veatch); "Reflection on Jeannette Veatch" (R. B. Cooter, Jr.); "My Experiences as a Literacy Education" (I. E. Aaron); "Reflection on Ira Aaron" (T. V. Rasinski); "The Freedom to Teach: A Glipmpse of Schooling and Reading Instruction in Today's Russia" (C. M. King and others); "Case Studies of Teacher Change from Conventional to Holistic Literacy Instruction" (M. A. Wuthrick); "Preservice Teacher's Perceptions of Portfolio Assessment in Reading/Language Arts Coursework" (M. T. Craig and A. G. Leavell); "Terminology: An Issue in Literacy Assessment" (C. Gillespie and others); "Writing Workshop: Is It a Reality in the Classroom?" (B. A. Illig and others); "Encouraging College Students to Meet the Adult Literacy Challenge" (J. S. Richardson); "Workplace Literacy Participants: What Impact Has GED Completion Had on Their Lives?" (S. B. Merlin); "The Effects of Perceptions of Failure and Test Instructions on Test Performance of Community College Students" (L. Maimon); "College Students' Perception of Effective and Ineffective Literature Instruction" (E. V. Newton); "Using Videodisc-Based Cases to Promote Preservice Teachers' Problem Solving and Mental Model Building" (V. J. Risko); "Field Experience Components in Secondary Content Reading Courses: A National Survey" (R. S. Johnson and S. D. Rinehart); "Literature Infusion: A Shot in the Arm for Elementary Methods Courses" (C. Briggs and T. K. Stiefer); "Using Portfolios to Enable Undergraduate Pre-Service Teachers to Construct Personal Theories of Literacy" (J. M. Wile); "Explorers of the Universe: A Pilot Case Study" (M. C. Alvarez and W. J. Rodriguez); "Children as Literacy Researchers" (L. C. Burkey and others); "Eighth-Grade Students' Use of Concept Circle Diagrams for Meaningful Learning from Science Text" (C. H. Nobles and B. C. Konopak); "How Parents Perceive Literacy Acquisition: A Cross-Cultural Study" (J. Anderson); "Parents' Perceptions of Young Children's Awareness of Environmental Print" (G. L. Shaffer and G. H. McNinch); "Home Literacy Environment and Young Children's Literacy Knowledge and Behavior" (J. Shapiro); "Fast Start: A Parental Involvement Reading Program for Primary Grade Students" (T. V. Rasinski); and "Listening to Learners: Dialogue Journals in a Family Literacy Program" (P. E. Linder and L. Elish-Piper). Most papers contain references. (NKA)

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Generations of Literacy

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Editors

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GENERATIONS OF LITERACY

The Seventeenth Yearbook
of
The College Reading Association
1995

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TABLE OF CONTENTS

Introduction viii

KEYNOTE ADDRESS **1**
Motivation Matters 2
Linda B. Gambrell

RESEARCH AWARDS **25**
The Use of Cloze as a Measure of the Interactive Use of Prior Knowledge and Comprehension Strategies
Dissertation Award *Victoria Ridgeway* 26

The Effects of Unfamiliar Words on the Processing of Propositions in Connected Discourse
Thesis Award *Randall Reese* 35

EARLY LEADERS IN LITERACY **45**
Reading From the Rear View Mirror
Jeannette Veatch 46
Reflection on Jeannette Veatch
Robert B. Cooter, Jr. 52

My Experiences as a Literacy Educator
Ira E. Aaron 53
Reflection on Ira Aaron
Timothy V. Rasinski 57

TEACHER PHILOSOPHY AND LITERACY **58**
The Freedom to Teach: A Glimpse of Schooling and Reading Instruction in Today's Russia
Caryn M. King, Ellen Simpson Jampole, and Geraldine Y. Berry 59

Case Studies of Teacher Change From Conventional to Holistic Literacy Instruction
Marjorie A. Wuthrick 69

Preservice Teacher's Perceptions of Portfolio Assessment in Reading Language Arts Coursework
Madge T. Craig and Alexandra G. Leavell 83

Terminology: An Issue in Literacy Assessment Beyond the Elementary School
Cindy Gillespie, Karen Ford, Ralph Gillespie, and Alexandra Leavell 96

Writing Workshop: Is It a Reality in the Classroom?
Barbara A. Illig, Joan B. Elliott, and George R. Bieger 109

ADULT AND COLLEGE LEARNERS AND LITERACY **121**

Encouraging College Students to Meet
the Adult Literacy Challenge
Judy S. Richardson 122

Workplace Literacy Participants: What Impact has GED
Completion had on Their Lives?
Shirley B. Merlin 134

The Effects of Perceptions of Failure and Test Instructions
on Test Performance of Community College Students
Lia Maimon 145

College Students' Perception of Effective and Ineffective
Literature Instruction
Evangeline V. Newton 161

TEACHER EDUCATION AND LITERACY **172**

Using Videodisc-Based Cases to Promote Preservice
Teachers' Problem Solving and Mental Model Building
Victoria J. Risko 173

Field Experience Components in Secondary Content
Reading Courses: A National Survey
Rhonda S. Johnson and Steven D. Rinehart 188

Literature Infusion: A Shot in the Arm
for Elementary Methods Courses
Connie Briggs and Tom K. Stieffer 199

Using Portfolios to Enable Undergraduate Pre-Service Teachers
to Construct Personal Theories of Literacy
J. M. Wile 209

LITERACY IN ELEMENTARY AND SECONDARY CLASSROOMS **220**

Explorers of the University: A Pilot Case Study
Marino C. Alvarez and William J. Rodriguez 221

Children as Literacy Researchers
Linda C. Burkey, JoAnne L. Vacca, and Richard T. Vacca 237

Eighth-Grade Students' Use of Concept Circle Diagrams for Meaningful Learning from Science Text 249
Connie H. Nobles and Bonnie C. Konopak

FAMILY LITERACY 261

How Parents Perceive Literacy Acquisition: A Cross-Cultural Study 262
Jim Anderson

Parents' Perceptions of Young Children's Awareness of Environmental Print 278
Gary L. Shaffer and George H. McNinch

Home Literacy Environment and Young Children's Literacy Knowledge and Behavior 287
Jon Shapiro

Fast Start: A Parental Involvement Reading Program for Primary Grade Students 301
Timothy V. Rasinski

Listening to Learners: Dialogue Journals in a Family Literacy Program 313
Patricia E. Linder and Laurie Elish-Piper

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INTRODUCTION

We hope you'll enjoy this seventeenth edition of the College Reading Association Yearbook, *Generations of Literacy*. This book reaches over 1,200 literacy educators and institutions around the world. As editors we have encouraged submissions from all conference presenters. Each manuscript submitted was subject to an in-depth process of blind peer review. Manuscripts selected for publication went through further revision and editing. This task, although time-consuming, has helped all participants learn and grow.

As editors we struggled with incorporating the conference theme "Literacy for Tomorrow's Learners" into a book title which would reflect the range of articles included. The theme and title finally jelled mid-August when a series of incidents took place. A student, Sabrina Thompson, used the Latin phrase "qui docet discit" or "whoever teaches learns" as a focus for a presentation in one of Wayne's classes; Betty suggested the title "Generating Literacy" during an email brainstorming session; and Wayne saw the video "Star Trek Generations".

Although we later found that "qui docet discit" means "he who teaches speaks" and that "quisquis doscet discet" means "whoever teaches learns," the Latin phrase gave us historical connections to build upon. Betty's term "generating" helped us conceptually integrate social construction with the future, or tomorrow's learners, so that the title encompassed the conference theme. The term "generations" that Wayne picked up from the video allowed us to include two other ideas. First, "generations" embraces our "early leaders in literacy," a theme we hope to expand upon during our term as yearbook editors. Second, "generations" highlights the mentoring relationship between students and teachers including the reciprocity implied in last year's title, "Pathways for literacy: Learners teach and teachers learn." Our professional endeavors and our personal love of science fiction, also are joined in "Generations." Finally, it fit with our plan, (originally spawned by Rich and JoAnne Vacca) for dedicating the book to our students and future generations of literacy learners. When Vivian Freeman, from the ETSU print faculty suggested a cover depicting a line of fading columns or pillars to symbolize the building of our understanding of literacy processes as well as the passage of time, a myriad of connections crystallized.

This Yearbook offers voices and perspectives from multiple generations that range from second grade co-researchers residing in the Midwestern United States to Russian educators who discuss the influence of *perestroika* or "restructuring" on their educational system. Authors, or builders of the generations of literacy, include distinguished early leaders in education (our foundation), internationally-known authorities (our pillars), and impressive newcomers (our new construction workers), whose articles represent an assortment of literary styles and paradigms. We hope our audience will find the selections meaty, provocative, and stimulating.

As we go to press numerous "thanks" are in order. The first goes to each author who submitted a manuscript for consideration. Space restrictions permitted acceptance of only about half of the submissions, however all authors deserve the gratitude of the entire organization for their scholarship and support of the Yearbook.

Next , we must thank the forty plus members of the editorial advisory team who provided invaluable assistance with their thoughtful and thorough blind peer reviews. Reviewing is a time-consuming endeavor which requires a high degree of scholarship, but bears few recognized rewards. At our annual conference please take the time to thank the reviewers, all of whom are CRA members, for their unselfish donation of time and expertise in support of the Yearbook.

We would like to give special thanks to East Texas State University (Commerce, TX) and George Mason University (Fairfax, VA), which provided support for the Yearbook during 1994-95. At ETSU Department Head Michael Sampson, Dean Don Coker, Academic Vice President Donna Arlton, and President Jerry Morris provided graduate assistants, facilities, and other forms of support; Vivian Freeman delivered technical, artistic, and production know-how; William McCarran furnished expert guidance with Latin terminology; Susan Goddard, Debbie Henriksen, and Frances Norman supplied invaluable secretarial assistance; and the Printing Department produced the book. At George Mason University, thanks go to: Dean Gustavo Mellander, Provost Frederick Rossini, and President George Johnson, who generously provided resources and facilities; Cathy Evans and Firzana Sheikh, who assisted with secretarial tasks; and the entire Graduate School of Education faculty, who gave support and constant encouragement to a new faculty member. Particular thanks also go to our editorial assistants: Lois Botha, Leslie Nation, Vicki Woody (ETSU), and Debby Deal (GMU).

The anonymous author who said, "Those who love teaching teach others to love learning" reflects last year's theme of "Learners teach and teachers learn" and extends it into the current theme and title *Generations of Literacy*. Last year we dedicated the yearbook to our teachers. This year we would like to dedicate this book to future generations of literacy learners, particularly our students who will carry literacy instruction into the twenty-first century. Not only do they love learning but they are struggling to understand how to help others come to love learning. Specifically, we'd like to recognize Kathleen A. J. Mohr. Kit is a teacher in the Longview Independent School District and doctoral candidate at ETSU. Kit was the Yearbook's editorial assistant in 1993-94, our first year as editors. She worked endless hours with both of us—in person, through email, and by phone. Although she was officially the "student," the learning was mutual. Kit and all of our students continue to teach us more "stuff" than we could ever teach them.

WML & EGS, Fall 1995

KEYNOTE ADDRESS

MOTIVATION MATTERS

Linda B. Gambrell

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In recent years motivation has gained prominence in numerous models of learning in an attempt to explain *why* different students expend different amounts of time and effort on academic tasks (Borkowski, Carr, Rellinger, and Pressley, 1990; Iran-Nejad, 1990; Pintrich and DeGroot, 1990; Prawat, 1989; Pressley, Borkowski, and Schneider, 1987). Research supports the notion that the depth and breadth of literacy learning is influenced by a variety of motivational factors (Ford, 1992; McCombs, 1991; Oldfather, 1993). Currently, there is great interest in exploring motivational factors that are specifically associated with reading motivation in both classroom and home contexts so that motivating contexts for literacy learning can be created. In this paper a brief summary of historical views of motivation is presented, followed by a review of current views of motivation and discussion of some of the dilemmas associated with research on reading motivation. This is followed by a discussion of a recent study, conducted at the National Reading Research Center, focusing on elementary school children's reading motivation (Gambrell, Palmer, and Codling, 1995).

The work reported herein is a National Reading Research Project of the University of Georgia and University of Maryland. It was supported under the Educational Research and Development Centers Program (PR AWARD No. 117A20007) as administered by the Office of Educational Research and Improvement, U. S. Department of Education. The findings and opinions expressed here do not necessarily reflect the position or policies of the National Reading Research Center, the Office of Educational Research and Improvement, or the U. S. Department of Education.

Motivation is currently acknowledged in the educational literature as a powerful and useful construct (Csikszentmihalyi, 1991; Ford, 1992; McCombs, 1991; Wigfield and Asher, 1984). Teachers have long recognized that motivation is at the heart of many of the pervasive problems we face in educating today's youth. Research during the past two decades indicates that teachers rank *motivating students* as one of their primary and overriding concerns (O'Flahavan, Gambrell, Guthrie, Stahl, and Alvermann, 1992; Veenman, 1984). There also is abundant research to support the contention that motivation plays a major role in learning (Deci and Ryan, 1985; Dweck and Elliott, 1983; McCombs, 1989). It appears that there is an almost universal consensus that motivation matters. Motivation often makes the difference between learning that is superficial and shallow and learning that is deep and internalized. Clearly, we need to direct our efforts to more fully understanding how children acquire the motivation to develop into active, engaged readers (Guthrie, Schafer, Wang, Afflerbach, 1993; Oldfather, 1993).

The construct of motivation has numerous and competing conceptualizations. For example, Kuhl (1986) used the term to designate all latent and aroused goal states which drive, orient, and select behavior at any given point in time. Wittrock (1986) defined motivation as the process of initiating, sustaining, and directing activity. Maehr (1976) focused on the concept of *continuing motivation*, which he defined as the tendency to return to and continue working on tasks away from the instructional context in which they were initially presented. Most motivational theorists identify two types of motivation: extrinsic and intrinsic (Deci and Ryan, 1985; Lepper, 1988). Behavior is said to be extrinsically motivated when it is done to satisfy some external goal, such as doing well on a spelling test in order to earn the privilege of a Saturday outing. Intrinsically motivated behavior, on the other hand, is characterized by a desire to engage in an activity because doing so brings personal satisfaction.

Researchers have recently begun to view motivation as a phenomenon of "thinking" (Corno and Snow, 1986; McCombs, 1991; Weiner, 1985; Winne, 1985). This conceptualization of motivation focuses on how children think about themselves as readers, how they think about the reading task, and their reasons and purposes for engaging in reading tasks and activities.

Historical Views of Motivation

Psychologists, researchers, and educators have long been interested in the role of motivation in learning. The early psychoanalytic theorists, such as Freud (1901 1951), posited that motivation is related to basic biological drives or instincts that cause individuals to behave in certain ways. The basic tenet that internal forces influence human behavior is still recognized in contemporary theories of motivation (Ford, 1992). Behaviorists, such as Skinner (1953), later viewed individuals as "blank slates" on which experiences (external events) conditioned and shaped behavior. While this theoretical view is behavioral in orientation and does not recognize cognition and affective experience, it does highlight important principles about how feedback to the learner can influence the selection of goals and the means used to attain those goals. Later, psychologists such as Rogers (1961) and Maslow (1970) put forth the view that individuals have an inborn propensity for growth that is fostered through learning, natural development, and significant others. These theorists focused attention on motives associated with learning, and their work resulted in the development of "self" theories which emphasize the strong and pervasive human need for positive social- and self-evaluations. Recently, cognitive, socio-cognitive, and social theorists have extended and refined these earlier theories and more integrative conceptualizations of motivation have emerged in the literature (Ford, 1992; McCombs, 1989).

Contemporary Views of Motivation

A number of contemporary theories of motivation emphasize the importance of self-perception in learning (Dweck, 1986; McCombs, 1989; Weiner, 1990; Wigfield, 1994). Motivation is viewed as a function of the individual's *learned* beliefs about his or her worth, abilities, or competencies. A vast body of research (Bandura, 1989; Covington, 1985; Dweck, 1986; Eccles et al.1983; Weiner, 1990; Wigfield, 1994) supports the contention that learned self-beliefs, expectations, and goals are critical factors that affect motivation and performance.

Ford's (1992) motivational systems theory centers on three aspects of motivation: personal beliefs, emotional processes, and personal goals. *Personal beliefs* are reflected in capability beliefs and context beliefs. Capability beliefs are self-evaluations about whether one has the capabilities needed to attain a goal, while context beliefs are evaluations of whether the environment or context will facilitate goal attainment. Taken together, capability beliefs and context beliefs provide the individual with information that guides decisions about initiating, maintaining, or avoiding learning activities.

According to Ford (1992), *emotional processes* provide an individual with evaluative information about personal values. Emotional processes result in an "energization" of behavior that is reflected in what "turns someone on" or "turns them off," what one likes or does not like, what one *values* or does not *value*. The clarity and saliency of personal values influences what is learned and remembered.

Personal goals represent desired future learning outcomes. The term "personal goal" is emphasized because the goals that direct an individual's activity are *always* within the person (Weiner, 1990). An individual's goals or *reasons* for engaging in an activity are often contextual in that people will adopt many of the goals shared by other individuals in their environment as well as those assigned by authority figures or significant others such as parents or teachers.

In summary, Ford's (1992) motivational systems theory suggests that people will always try to attain goals they value within the limitations of what they think they can achieve based on their capability and context beliefs. This notion is consistent with Winne and Marx's (1982) assertion that a positive state of motivation is a necessary condition for learning. In keeping with Winne's (1985) theory of motivation, the "idealized" reader feels competent as a reader, values reading, chooses to read, and engages in reading activities with intensity.

A number of these current theories suggest that self-perceived competence and task value are major determinants of motivation and task engagement (Eccles et al.1983; Pintrich and Degroot, 1990; Wigfield, 1994). Eccles and colleagues (1983) and Wigfield (1994) have advanced an "expectancy-value" theory of motivation that posits that motivation is strongly influenced by one's expectation of success or failure at a task as well as the value or relative attractiveness the individual places on the task. The expectancy component of this expectancy-value theory is supported by a number of research studies that suggest that students who *believe* they are capable and competent readers are more likely to outperform those who do not hold such beliefs (Paris and Oka, 1986; Schunk, 1985). In addition, there is evidence to suggest that students who perceive reading as valuable and important and who have personally relevant reasons for reading will engage in reading in a manner that includes more planning and effort (Ames and Archer, 1988; Dweck and Elliott, 1983; Paris and Oka, 1986).

While it is a generally accepted notion that motivation plays a central role in reading development, a review of the *Annual Summary of Investigations Relating to Reading* (International Reading Association,1985-1992) revealed relatively few studies related to motivation and reading development. While motivation was not listed as a descriptor in the *Summary*, studies related to motivation were found under related descriptors. From 1985 to 1992, the mean number of studies of motivation was only 9 studies per year. Given the vast amount of research on reading, it appears that relatively little attention has been devoted to the topic of motivation to read.

Framing a Study to Explore the Reading Motivation of Elementary Students

Prior research on the reading motivation of elementary students has focused more generally on attitudes toward reading and specific variables such as gender differences, grade level differences, and to a lesser extent, differences according to reading proficiency level. A number of studies have

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revealed that girls have more positive attitudes towards reading than do boys (Anderson, Tollefson, and Gilbert,1985; Hansen,1969; Johnson,1973; Greaney and Neuman,1990; Ross and Fletcher,1989; Stevenson and Newman,1986) and that younger children have more positive attitudes toward reading than do older students (Anderson, Tollefson, and Gilbert, 1985; Greaney and Neuman, 1990; Ishikawa, 1985; Parker and Paradis, 1986; Saracho and Dayton, 1991). In addition, recent research by McKenna, Kear, and Ellsworth (in press) reveals that while above average and average ability readers' attitudes toward reading remain fairly stable, the attitudes of below average readers steadily decrease as they progress through the elementary grades.

Roettger (1980) conducted one of the few studies in the literature specifically designed to explore complex relationships between attitude and reading achievement. The study revealed that high attitude/low achievement students had different expectations of reading when compared with the low attitude/high achievement students. The high achievement/low attitude students viewed reading as a means of gaining information to help them get good grades and perform well in school, while low achievement/high attitude students viewed reading as a way of pursuing specialized personal interests.

During the past four years my colleagues and I have been involved in a series of studies designed to explore elementary students' motivation to read. The studies were framed within the expectancy-value theory of motivation (Eccles et al.1983; Wigfield, 1994) and were designed to explore the roles of self-concept and value in motivation to read as well as more personal dimensions of motivation as reflected in specific reading experiences.

The methodology employed in the primary study was designed to overcome some of the limitations of existing motivational research. First, most of the research to date on literacy motivation has consisted of a single interview procedure. This is not a trivial concern given that motivation to read may be influenced by a large number of variables which may fluctuate across time and context. In this study both a Likert-scale Reading Survey instrument and two Conversational Interviews were used to collect data. One interview focused on narrative reading experiences, while the other focused on reading informational text. Our review of the research on reading motivation confirmed that prior research has primarily focused on motivation as it relates to the reading of narrative text, and few studies have specifically explored the role of text type in the reading motivation of elementary age children.

Another problem inherent in most of the motivation research in reading is that reading ability is a confounding variable, and as such, in research designs "highly motivated" readers are typically identified as proficient, higher ability readers, while "less motivated" readers are identified as less proficient, lower ability readers. We know that this conceptualization is inaccurate (Roettger, 1980), and that there are proficient readers who are not motivated to read, just as there are less proficient readers who are highly motivated to read.

The methodology we employed in this study for exploring young children's motivation to read was guided by the work of Burgess (1980) and his conceptualization of unstructured interviews as conversations and Silverman's (1993) theory of interactionism. According to Burgess (1980) interviews are encounters between human beings trying to understand one another. In his view, conversational interviews should be treated as social events based on mutual participation by the interviewer and the informant. One reason for using conversational interviews is that they can provide greater depth of information than other techniques (Burgess, 1980). In this study, both a survey instrument and conversational interviews were used to collect data.

Participants and Setting

The students who participated in this study were third- and fifth-graders from 4 schools in two Maryland counties. All teachers and third- and fifth-grade students in the 30 classrooms were invited to participate. Data from 3 classrooms were omitted from the final analysis because guidelines for administration of the Reading Survey were not followed. The final sample consisted of 330 third- and fifth-grade students from 27 classrooms who responded to the Reading Survey and 48 students, drawn from the larger pool of subjects, who participated in the two Conversational Interviews.

One county was described by the participating school principals as agriculturally-based with growing bedroom communities. The other county was described as a growing metropolitan area by one principal and as rural, with pockets of bedroom communities, by the other principal. Though school principals indicated a range of socioeconomic levels was represented, every school was described as middle class, with approximately 23% of students eligible for the federal free-lunch program. All four schools housed grades K-5, but student populations ranged in number from 340 to 820. There were 8 third-grade classrooms and 9 fifth-grade classrooms in the two schools in one county; 7 third-grade classrooms and 6 fifth-grade classrooms in the two schools in the other county. Schools in both counties were predominantly Caucasian, with a minority population of approximately 30% in one county and 9% in the other county.

During the sixth week of school, teachers were asked to provide information about their reading program and students. With regard to the reading program description, teachers were provided with a list of seven descriptors (Gambrell, 1992) and were asked to indicate which descriptor best matched their reading program. If the basic program was supplemented in some way, teachers indicated the way in which they individually modified their program.

The majority of the fifth-grade teachers (8/13) reported that basals served as the core of reading instruction with supplemental use of children's literature. The remaining fifth-grade teachers reported that children's literature served as the core material used in reading instruction. The majority of the third-grade teachers (10/14) reported that children's literature was at the core of their reading instruction. The remaining third-grade teachers reported using basals as the core material for reading instruction.

The use of teacher ratings of students' reading proficiency and motivational levels was an important feature of this study. According to Marsh, Smith, and Barnes (1983) these ratings are reasonable indicators of student performance and motivation because elementary classroom teachers

(a) spend the entire school day with their students and therefore have considerable contact with them,

(b) are exposed to a wide variety of children, usually in heterogeneously-grouped classrooms, as was the case in this study,

(c) have experience in making professional judgments about individual students; and

(d) are likely to have a variety of opportunities to observe behaviors relevant to both reading achievement and motivation to read. There is a considerable body of recent research that indicates that classroom teachers are reasonably accurate and reliable in estimating student achievement (Coladarci, 1986; Egan and Archer, 1985; Hoge and Butcher, 1984). In addition, prior research has provided evidence of substantial agreement between teacher ratings of students' self-concepts and self-reports by students (Perkins, 1958; Phillips, 1963).

At the conclusion of the sixth week of the academic year teachers were asked to indicate the reading proficiency level of their students (above-grade, on-grade, and below-grade level) and, within each reading proficiency level, to identify two motivated and two unmotivated students. Throughout this paper we use the terms "highly motivated" and "less motivated" in keeping with McCombs (1991) theoretical position that all students are motivated and that it is the *relative strength* of the motivational state that is of interest. Informal conversations with teachers in the participating schools suggested, however, that for the purposes of this study the terms "motivated" and "unmotivated" would be less ambiguous and more useful in making judgments about students' motivation to read. Teachers in this study did not report any concerns about making these judgments.

From the teacher-generated lists, a subset of 48 students was randomly selected to participate in conversational interviews about motivation to read. Equal numbers were drawn from each of the following subgroups for both grade levels and both counties: Motivated Above-Grade, Motivated On-Grade, Motivated Below-Grade, Unmotivated Above-Grade, Unmotivated On-Grade, and Unmotivated Below-Grade. In one county, however, teachers were unable to initially identify any fifth-grade students as below-grade level motivated readers. One month later (mid-November) a follow-up letter was sent to these teachers requesting the identification of any motivated, below-grade level readers in their classrooms. As a result three students were identified, but only one had parental permission to participate in the study. A motivated below-grade level student was then identified from the other county, resulting in a stratified random selection of 24 highly-motivated readers and 24 less-motivated readers across the three reading levels.

Materials

The *Motivation to Read Profile* (*MRP*) was developed for this study (Gambrell, Palmer, Codling, and Mazzoni, in press). The *MRP* consists of two parts: the *Reading Survey* and the *Conversational Interview*. The *Reading Survey* is a 20-item, 4 point Likert-type response scale designed to assess self-concept as a reader (10 items) and value of reading (10 items). The *Conversational Interview* is a scripted, open-ended instrument designed to tap information related to the reading of narrative and informational text and a range of personal factors related to reading motivation. (For a complete description of this instrument see Gambrell, Palmer, Codling, and Mazzoni, 1995).

The internal consistency of the *Reading Survey*, using Cronbach's alpha statistic, was calculated for grades 3 and 5 (Cronbach, 1951, 1988). Cronbach reliability coefficients for the third grade and fifth grade were as follows: Self-Concept as a Reader, third grade = .70, fifth grade = .74; Value of Reading, third grade = .69, fifth grade = .77.

In an additional step to validate the *MRP*, questions which tapped similar information on both the survey instrument and the interview were identified. There was corroborating information available from interview items for 55% of the items on the *MRP*. The responses of two motivated and two unmotivated students at each grade level were randomly selected for analysis to determine consistency of responses between the survey and the interview. Two raters independently compared each student's responses to related items, with an interrater agreement of .87. Consistency was measured by comparing the consistency of the students' response on the *MRP* items and their responses on the interview between the *MRP* and the interview. The consistency across the two measures was .70.

Procedure

Data were collected for the study at three points across the school year using the *Motivation to Read Profile*. The *Reading Survey* was administered in the late fall to 330 third and fifth grade students in 27 classrooms. The *Conversational Interviews* were conducted in early winter and in the spring with a stratified random sample of 48 third and fifth grade students. Each student participated in two interviews.

Data Analysis

The analysis conducted on the Likert-scale *Reading Survey* instrument reflected a 2 (self-concept, value) x 3 (reading level) x 2 (gender) factorial design. Analysis of variance procedures, t-tests, and chi-square analyses were used, and where appropriate, Tukey post hoc analyses were conducted.

Three separate and distinct analyses were conducted with the interview data. All protocols were transcribed by question so that responses to each question could be scrutinized for patterns and themes. First, the interview data were analyzed with regard to responses that were relevant to the three constructs measured by the *Motivation to Read Profile* (self-concept as a reader, value of reading). Second, where appropriate, responses were tabulated and frequencies were calculated in an attempt to reveal patterns of responses. Third, the constant comparative method of analysis (Strauss and Corbin, 1990) was used for conceptualizing and categorizing data through open coding. Two researchers read all responses to each question and identified emerging patterns and categories of responses.

Results and Discussion

The findings of this study were derived from analyses conducted on student responses to the *Motivation to Read Profile* (*MRP*). First, the results relative to performance on the *Reading Survey* (Likert-scale instrument) will be presented, then the results of the analyses of the interview responses will be described.

What the Results of the Motivation to Read Profile Reveal About Elementary Students

Our analysis of the MRP was guided by a number of questions about young children's motivation to read. In this next section I discuss our findings with respect to our guiding questions.

What do elementary students feel most competent about with respect to reading? Not surprisingly, the results of the analysis of the items related to self-concept as a reader revealed that third and fifth grade students reported feeling most competent about their ability to understand what they read and their ability to figure out unfamiliar words. When we looked at the items that were rated lowest by students, an interesting pattern emerged. Students reported feeling less competent with respect to social interactions and public displays of their reading competence. For example, responses at both grade levels revealed that students feel less competent about discussing their reading with others and their oral reading performance.

What do elementary students value most with respect to reading? One interesting finding with respect to the value of reading was that both third and fifth graders placed a high value on receiving books as gifts and having access to lots of books at home and school. On the other hand, students did not perceive their peers as valuing reading.

How are third- and fifth-graders similar and different with respect to motivation to read? As revealed in prior research (McKenna, Kear and Ellsworth, in press) the third graders were more positive than the fifth-graders; however, the pattern of responses was remarkably similar with respect to their responses about self-concept as a reader. Our analysis did, however, reveal some interesting differences in the pattern of responses across grade levels with respect to value of reading. For example, third graders were more positive than fifth graders with respect to choosing reading as a pleasure activity, viewing people who read often as interesting people, and spending time in the library.

Does motivation to read differ by reading ability groups? When we looked at responses by reading ability level (above grade level, on grade level, and below grade level) there was a statistically significant difference among the reading ability groups with respect to self-concept as a reader. Responses of students reading below grade level in both third and fifth grade were lower in self-perceived reading competence. In addition, at the third grade level, there were ability level differences with respect to self-perceived competence relative to peers, decoding ability, oral reading, and responding to questions about reading, with the below grade level students reporting lower self-perceived competence compared to the on grade level and above grade level groups. There were no statistically significant differences among reading ability groups with respect to value of reading. This finding raises some interesting questions with respect to the expectancy-value theories of motivation. Perhaps self-concept is a more critical factor in the motivation of children than is the construct of value. In this study, elementary students, in general, seemed to place a high value on reading; however, significant differences in motivation were apparent across reading ability groups with respect to self-perceived competence.

What the Results of Conversational Interviews Reveal About Motivation to Read

Forty-eight third- and fifth-grade students, 22 males and 26 females, were selected as key informants who participated in two in-depth, conversational interviews. Student responses to the questions posed during the Conversational Interview revealed information about text, school, and home influences on motivation to read.

What children told us about reading narrative text. When we asked the children in our study to tell us about "the most interesting story/book you have read this week," 3 third-grade students were unable to describe a narrative reading experience; however, all fifth-grade students were able to do so. Two of the fifth-graders reported they had not read any stories/books "this week" but they were able to discuss reading done during the previous week.

In response to the request to tell us about the most interesting story/book they had read, 45 of the 48 students were able to describe in detail something they had read that they found interesting. Of the stories mentioned, 25% were series books. In the course of telling about the story/book, 13% of the children spontaneously mentioned teacher influence (teacher had read the book aloud, teacher mentioned the book, etc.). Several children also spontaneously mentioned liking adventure, mysteries, and series books. When asked about why the particular story/book they identified was "most interesting," children responded in terms of personal interest (25%), story action (23%), and one child mentioned the writing style of the author.

When the children were asked about their "most interesting" story/book, 88% reported that they self-selected the book. Over 60% of these children reported that they chose the book from the classroom or school library. The primary reasons children offered for choosing the particular story/book were personal interest (15%), someone recommended it (10%), interest in a particular genre (10%), and fondness for series books (6%). Interestingly, only 10% reported that the "most interesting" story was one that had been assigned by the teacher.

Over 78% of the children reported having an "all time favorite book." Over 10% of the children mentioned series books as "all time favorites." Over 63% of the children were able to name and discuss a favorite author's book or books. Additionally, 25% of the children named authors of series books as their "favorite author." Only 12% were able to name and discuss the work of a favorite illustrator.

When asked, "Do you know about any books or stories you would like to read?" approximately 70% of the children were able to tell about such books. When asked why they wanted to read these books, 40% mentioned interesting titles, 14% of which were series books. Children reported that they found out about these books from family members (19%), teachers (4%) and friends (4%), by reading other titles by the same author (13%), and from browsing in the classroom or school library (8%).

What children told us about reading expository text. In response to the initial probe to "tell about a time that you read to learn or find out about something . . . something important that you learned recently, not from your teacher and not from television," 5 of the 24 third-grade and 2 of the 24 fifth-grade children were unable to provide a description of a reading experience of an informational nature. One third-grade and one fifth-grade student initially responded with renditions of narrative reading experiences. Of most interest was the finding that 5 third-grade and 6 fifth-grade students could not think of any expository reading they had done recently; however, they responded with references to expository reading they had done in the previous grade, with one third-grade student referring to something he read in kindergarten.

Approximately 40% of the children were able to provide general information about their informational reading, while only 30% were able to provide specific in-depth information about what they had read. Children reported that the informational reading they had done was of interest to them because it was about animals (30%), science/environment (20%), history (17%), and hobbies or sports (10%). Children reported reading primarily informational trade books (77%), encyclopedias (10%), and one child reported reading the newspaper.

When asked how they found out about their "most interesting" informational book material, 62% reported they self-selected the reading material, while 18% reported it had been assigned by the teacher. Children who self-selected the book material reported the material was chosen because of interest in the topic (27%), it was important to learn the information (17%), or it was a required assignment (4%).

Home Influences on Young Children's Motivation to Read

When asked about where they read their "most interesting" story book, children reported that they did the reading at home (50%), school (27%), and library (4%). When asked where they did most of the reading of their "most interesting" informational book material, 50% of the children reported they read the informational book material at home and 35% reported they did the reading at school.

Approximately 65% of the children reported that their favorite place to read at home was in their bedroom, and 80% of these children reported keeping books on a shelf or in a drawer in their bedrooms. When children were asked about how they acquired the books they own, 65% reported they received them as gifts, 16% received them through a book club, and only 10% reported buying books with their own money.

In response to the question, "Did you read anything at home yesterday?," 28 out of 48 children (58%) answered "yes." Of these 28 children, 25 were able to give specific titles or information about their home reading. Fifty-six percent of the children reported spending time reading homework assignments, and approximately 45% of the children reported that they read for pleasure before going to bed at night.

Seventy-five percent of the children reported talking to family members about their reading. Parents were mentioned by 69% (with the mother being mentioned in the overwhelming number of cases), siblings by 15%, others, such as grandparents and caregivers were mentioned by 15%. Over 80% of the children indicated that they were reading a book at home for fun at the time of the interview. Only one child reported owning no books or magazines at home, while 20% reported owning over 100 books, 42% reported owning more than 20, and 35% reported owning fewer than 20. Seventy-seven percent of the students reported owning magazines.

When asked about "good memories about learning to read" children told about pleasant and supportive reading experiences with parents (60%), teachers (21%), and others such as grandparents and caregivers (10%) and siblings (6%). When asked about "unpleasant memories about learning to read" children shared experiences involving parents (10%) and teachers (4%). Finally, when asked "Who gets you excited about reading books and stories?" children identified parents (60%), teachers (23%), others such as grandparents and caregivers (27%), siblings (15%), and friends (15%). Approximately 12% reported that there really wasn't anyone who got them excited about books or stories.

School Influences on Young Children's Motivation to Read

Most children (73%) indicated that they talked with someone at school about the books/stories they read. Of the 35 children who reported talking with others at school about reading, 69% indicated they talked with friends, 25% talked with teachers, and 4% reported talking with others such as the principal and parent volunteers.

When asked, "Do you have any books in your desk right now at school that you are reading for fun?" over 70% of the students responded positively. All of the children were able to name the title of the book or provide specific information about it. Twelve of the children reported having more than one book in their desk for personal reading and five children specifically mentioned series books.

When asked about the reading of their "most interesting" informational books/materials, most of the children reported finding the book/material in the classroom or school library (63%). When asked to describe the reading they did throughout the school day, the children reported reading in the following areas: language arts/reading (75%), math (39%), science (23%), social studies (23%) and other areas such as music, physical education, art (22%). When asked about reading during the school day, children reported that reading math (19%) and social studies (13%) texts was the most boring. The finding that children in this study perceived that math was second only to reading and language arts with respect to time being spent on reading was somewhat surprising, as was their report that reading in math was the most boring.

Over 20% of the children reported that there was time to read in the morning before school work was started, and 8% of the students reported that they had time to read when their work was finished. Most importantly, 88% of the children reported that there was some time during the school day when they could read whatever they wanted to read. Only 2 children reported doing reading in the school library during the previous day.

General Discussion

This study explored elementary students' motivation to read with respect to self-concept as a reader, value of reading and personal dimensions of reading as revealed in conversational interviews about reading. One of the major findings derived from this study is that there was abundant confirming information across the results of the *Motivation to Read Profile* (*Reading Survey* and *Conversational Interview*) with respect to young children's motivation to read. Approximately 50% of the items on the *Reading Survey* were probed during the interview sessions. An analysis of the consistency of the children's responses revealed that in 70% of the cases, consistent information was provided across the two measures. While the *Reading Survey* provided basic information about elementary students' self-concepts as readers and the value they place on reading, the interviews provided richer and fuller descriptions of the motivational reading experiences of elementary school students.

Self Concept as a Reader. Self-perceived competence is thought to be a critical factor in learning (Bandura, 1989; McCombs, 1989, 1991). The results of the Self-Concept as a Reader Scale indicated that while most elementary students in this study reported that they are "very good readers" (47%), significant numbers of students do not perceive themselves as competent readers. For example,

- 45% reported, "I worry about what other kids think about my reading almost every day."
- 17% reported, "When I read out loud I feel embarrassed/sad."
- 17% reported, "I am an OK/poor reader."

Value of Reading. The results of the Value of Reading Scale suggested that, in general, elementary students view reading as being of high value, as revealed in the following responses:

- 84% reported, "Knowing how to read well is very important."
- 82% reported, "People who read a lot are interesting."
- 68% reported, "I talk to my friends about good books I read."
- 65% reported, "I would like for my teacher to read out loud to the class every day."
- 61% reported, "When someone gives me a book for a present I feel very happy."

Several responses on the Value of Reading Scale, however, pointed to the fact that, for some children, reading is not viewed as a positive activity or as an activity of high priority, as revealed in the following responses:

- 14% reported, "I will spend very little/none of my time reading when I grow up."
- 10% reported, "People who read are boring."

- 10% reported, "My best friends think reading is no fun at all."
- 8% reported, "Libraries are a boring place to spend time."

What Children Have to Say About Motivation to Read

The conversational interviews yielded several additional insights about elementary children's motivation to read. Four powerful influences on elementary children's motivation to read were revealed—repeated experiences with books, social interactions about books, book access, and choice.

Repeated Experiences with Books

The importance of repeated experiences with books was revealed throughout the interviews as children talked about why they engaged in reading. Children described reading books previously read aloud by parents or teachers, reading books they had seen on television and in the movies, and reading series books which provide a particular kind of repeated reading experience. These repeated experiences may be closely linked to self-perceived competence in that they provide essential scaffolding necessary for successful reading experiences (Feitelson, Goldstein, Iraqi, and Share, 1993 Vygotsky, 1978). The following examples of children's comments reveal the significance of repeated experience with text, even for older students:

> ". . . I like the *Little Mermaid* (movie) and I like reading it (the book)."
>
> ". . . I saw it on *Reading Rainbow* . . ."
>
> ". . . I read it after the teacher read it aloud . . ."
>
> ". . . I've been reading a book for November and I'm going to still read it for December and it's called *Mouse and the Motorcycle* . . . we read it in school before . . . and my mom bought it (from book club)."
>
> ". . . I want to read *Stuart Little* . . . my mom read it to us . . ."
>
> ". . . I'm rereading that book (*White Fang*) and the bird book."
>
> ". . . I heard it on tape . . . my Uncle brought it for me."

One of the most frequently occurring themes throughout the interviews was the compelling nature of series books, which provide repeated experiences of a special nature with characters, setting and general story structure remaining consistent and providing familiarity, while the plot provides new and challenging information. The following comments reflect the highly motivating quality of these books.

> ". . . Well, I'm reading *My Teacher Glows in the Dark* and it's really cool cause he's telling his friend what happened when his teacher took him to outer space . . . it's good and it's the sequel to *My Teacher is an Alien* and *My Teacher Fried My Brain*."
>
> ". . . third one I've read out of 15."
>
> ". . . they have a whole bunch of these books out like *Kristen, Molly*,

and *Samantha* [American Girls series] . . . I really like reading those books . . ."

". . . I like the *Babysitter's Club* books . . ."

". . . I have a whole set of them [referring to a series] . . ."

". . . I want to read more Boxcar children . . . I got the first one at the book fair."

". . . there's four to the series . . . I'm on the second . . ."

". . . my sister had a set (of the series) . . ."

Social Interactions about Books

The interviews revealed that children place a high priority on social interaction associated with reading books and talking about them with friends, parents, and teachers. The interviews also supported the primary influence of social interaction on young children's motivation to read (Guthrie, Schafer, Wang, Afflerbach, 1993). Throughout the interviews children talked about hearing about books from teachers, friends, and parents, as the following examples show:

". . . my friend Kristin was reading it and told me about it and I said, 'Hmmm, that sounds pretty interesting.'"

". . . my friend told me about it."

". . . I got interested in it because the other group, I'm in the lower reading group and I heard the other group reading it so I checked it out in the library."

". . . I want to read [those books] . . . my teacher told me about them."

". . . I heard about them from my teachers . . . they read good books to us . . ."

Book Access

Both the survey and the interviews pointed to the importance of book access and book ownership in motivation to read. Having many opportunities for book borrowing and having personal libraries at home appear to be important influences on motivation to read. Recent research by Elley (1992) supports the strong link between reading achievement and book access.

Book Borrowing. Book access for the children in this study was primarily through borrowing from their classroom libraries, pointing to the importance of providing book-rich classrooms (Fractor, Woodruff, Martinez, and Teale, 1993; Morrow, 1992). Children also mentioned a number of other important avenues for obtaining books as the following responses illustrate:

". . . I got it from the YMCA bookmobile."

". . . got it from the school library."

". . . my teacher got books and she asked me to pick one."

". . . I got it from the reading specialist . . . picked it from her collection of Bill Peet books."

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Books as Gifts and Book Ownership. All but one of the children in this study reported having their own personal libraries at home. When children were asked how they accumulated their personal libraries, the overwhelming majority reported that they received books as gifts from a wide range of individuals, primarily parents, but almost as frequently mentioned were aunts, uncles, and grandparents, as the following examples illustrate:

> ". . . they were gifts from family members."
> ". . . I beg my Grandma [to buy them] . . . as gifts"
> ". . . gifts from my uncle and grandfather . . ."
> ". . . I got them as gifts for Christmas and birthdays . . ."

On the survey instrument the responses of both third- and fifth-graders indicated that receiving books as gifts was highly desirable. The interviews also revealed that children's book ownership is closely linked to receiving books as gifts. This finding suggests that there is a need for future research to explore incentive programs that give books as a reward (e.g., the 1st grade "Running Start Program" sponsored by Reading is Fundamental) and ways that schools can promote book ownership.

In addition, two children reported having books "handed down" to them by older siblings or cousins. One child said, "I trade with my brothers and people at school . . . I take anything I can get my hands on!" Another child reported, "My cousin had to move . . . she handed them down to me."

Book Clubs. Book clubs and incentive programs were also mentioned by a number of children who reported owning larger numbers of books in their personal libraries.

> ". . . I got them from the Troll Book Club . . ."
> ". . . I got them from Book It . . ."
> ". . . I get 2 or 3 books from Troll Book Club each time."

Choice

The role of choice in motivation in general and reading motivation in particular is well recognized (Spaulding, 1992). In the present study, the survey and the interviews conducted consistently revealed that children are more motivated to read when they choose their own reading materials. For third graders and fifth graders, in particular, self-selection was revealed to be a significant positive factor on the Reasons for Reading Scale. When telling about the "most interesting" narratives and informational texts they had read, children consistently reported they had *chosen* the books. Over 25% of the children indicated that they had selected a book because a teacher or friend had recommended it, told them about it, or the teacher had read it out loud to the class. Children's responses in this study suggest an important relationship between self-selection (choice) and social interaction about books.

Motivational Differences in Reading Narrative and Expository Texts

The results of this study suggest that there are important differences between children's motivation to read narrative and expository texts. First, almost every child in this study responded immediately and enthusiastically to the request to tell about "the most interesting story book you have read this week." This was not the case when asked to tell about reading that was informational in nature. Many students had difficulty thinking of anything they had read recently that was informational and a large percentage could only refer to reading that had been done in previous years.

Many of the children who responded readily to the request about informational text were excited and interested in sharing this information. When describing the pleasure and excitement she experienced from reading about a topic in an encyclopedia, one student said, "I don't know why, but I've always been the kind of person to want to, at the flash of a moment, get information . . . I just crave for information." Other students linked their informational reading to their narrative reading on particular topics. For example, one child described her reading about World War II in the encyclopedia and then proceeded to tell about a related book she had read. She commented, ". . . and I found out, more from a child's point of view [by reading the narrative book, as compared to the informational text]. . . . her best friend is Jewish and they're trying to get her away from the soldiers . . . you could see how the times were complicated . . . it was, . . . I don't know how to say it, . . it was just tragic, you know? I like reading about characters and how the authors take real life and put it into their own fiction."

In an earlier study, Leal (1992) reported that elementary children found "infotainment" books—books that are both informational and entertaining—more engaging than either narrative or expository texts. Recently, Pappas (1993) reported that even kindergarten children demonstrated a preference for informational books. The reluctance with which children in the present study responded to the interview questions about informational texts suggests that future research is needed that will focus on motivational aspects related to young children's reading of expository texts.

Every Child Is Motivated to Read

Perhaps the most interesting and most significant finding from this study was revealed in our analysis of the data from the 48 children who served as key informants by participating in the conversational interviews with the researchers. These 48 children represented differing reading ability groups (above grade, on grade, and below grade level) and different motivational levels (motivated and unmotivated). We expected to find that children who were rated as highly motivated, good readers would have remarkably different responses than would poor readers who were rated as unmotivated. What we found, however, was in keeping with McCombs's (1991) position that motivation to learn is a human state and that everyone is motivated to some extent. Our interviews with third and fifth grade students provide compelling evidence that all the children in our study were motivated to read; however, some were more motivated than others.

One truly remarkable finding from our study was that good and poor readers were motivated by the same environmental and social factors. When we asked children questions about personal dimensions of motivation (i.e.,"What have you read lately that was really interesting?" "Where did you get the book?" "Why did you choose that book?" "Who gets you excited about reading?"), their answers were far more similar than different. In other words, good and poor readers appear to be motivated by the same factors: an abundance of available books; opportunities to choose their own reading materials; and time to share and discuss books with others.

One underlying assumption in this study was that interest is a key factor in motivation and that interest would be reflected in the books and stories children chose to talk to us about. Numerous recent studies have documented that interest fosters depth of processing and enhances learning (Alexander, Kulikowich, and Jetton, 1994; Hidi, 1990). Another related factor that has not been as extensively researched with respect to reading is that of curiosity. In our analysis of the responses of children across all interview questions we discovered an interesting link between book familiarity and curiosity. It appears that young children want to read and are curious about books that are somewhat familiar. Across the interview questions, children mentioned that they had read or were interested in reading a book because someone had talked with them or mentioned the book to them or they had seen someone else reading the book. This relationship between familiarity and curiosity was also revealed in children's frequent discussions of series books where the characters and setting are familiar, yet the plot is unique. It appears that children want to read and are curious about books they know something about; this suggests that reading motivation may be effectively fostered by book sharing activities that familarize children with a variety of books. This finding reinforces the notion that social interactions about books and providing opportunities for children to share books may be important considerations in developing motivating instructional contexts for literacy development.

Taken together, the findings from this study make a convincing case that we can help children develop the reading habit and an intrinsic desire to read by creating motivating instructional contexts for literacy learning. The very basic considerations for creating motivating contexts appear to be the following: book-rich classroom and home environments, opportunities for children to engage in self-selecting reading materials, and time to socially interact with peers and others about personally interesting books, stories, and texts. While these considerations are basic, it is important to remember that they are not always easy to implement in the classroom. That is our challenge as we work toward helping all children develop into active, engaged readers.

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RESEARCH AWARDS

THE USE OF CLOZE AS A MEASURE OF THE INTERACTIVE USE OF PRIOR KNOWLEDGE AND COMPREHENSION STRATEGIES

Dissertation Award

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Abstract

A major task associated with research designed to investigate the individual and interactive influence of domain knowledge and reading comprehension ability is to design an instrument that assesses the ability of subjects to use prior knowledge and comprehension strategies interactively. This article describes part of the process of designing and validating an instrument for a larger study.

Dole, Duffy, Roehler, and Pearson (1991) identified two important characteristics of readers: prior knowledge and knowledge of strategies used in the comprehension of text. The influence of both of these factors is well documented in the field of reading (Alvermann, Smith, & Readence, 1985; Anderson, Reynolds, Schallert, & Goetz, 1977; Anderson, Spiro, & Anderson, 1978; Palincsar & Brown, 1984; Raphael & McKinney, 1983; Taylor & Beach, 1984). Some researchers have called for the investigation of the interactive use of domain knowledge and strategic reading in an effort to clarify our understanding of the comprehension process (Alexander, 1992; Alexander & Judy, 1988; Roller, 1990). A major task associated with research designed to investigate the individual and interactive influence of domain knowledge and reading comprehension ability is to design an instrument that assesses the ability of subjects to use prior knowledge and comprehension strategies interactively.

This article will describe the process involved in the design and validation of such an instrument. First, research that investigated the interaction between prior knowledge and comprehension strategies will be summarized with a focus on methods used to measure the interaction between the variables of prior knowledge and comprehension strategies. Next, research on the use of cloze to measure intersentential comprehension will be reviewed. Finally, the development of a cloze instrument to measure the interactive use of prior knowledge and comprehension strategies will be described and validation procedures discussed.

Interaction Between Prior Knowledge and Comprehension Strategies

Recent reviews of the literature have emphasized the importance of the interaction of domain and strategic knowledge (Alexander & Judy, 1988; Perkins & Salomon, 1989; Prawat, 1989). However, few studies investigating the interaction between domain and strategic reading comprehension processes have been conducted (Voss, Blais, Means, Greene, & Ahwesh, 1986; Zajchowski & Martin, 1993). The current research base focuses on the interaction between domain knowledge and comprehension strategies, such as use of text structure (Day & Englehardt, 1983; Ohlhausen & Roller, 1988; Wylie, 1993; Yochum, 1991) and use of analogical reasoning (Alexander & Kulikowich, 1991; Alexander, Pate, Kulikowich, Farrell, & Wright, 1989; Jetton & Alexander, 1993). Other studies focus on the interaction between domain knowledge and factors that influence reading comprehension such as aptitude (Walker, 1987) and vocabulary knowledge (Freebody & Anderson, 1983; Stahl, Jacobson, Davis, & Davis, 1989). Non-academic domains (Day & Englehardt, 1983; Hasselhorn & Korkel, 1986; Peterson, 1993; Walker, 1987) and academic domains such as social studies (Freebody & Anderson, 1983; Ohlhausen & Roller, 1988; Stahl et al., 1989; Voss, Blais, Means, Greene, & Ahwesh, 1986; Yochum, 1991) and biological science (Alexander & Kulikowich, 1991; Alexander et al., 1989; Jetton & Alexander, 1993) have been investigated.

Research that examines the interaction between prior knowledge and comprehension has established means of measuring prior knowledge and comprehension. Because the focus on the interaction between these two important variables is relatively recent, reading researchers have not established accepted means of measuring that interaction. Some studies have examined the interaction between prior knowledge and comprehension strategies statistically (Day & Englehardt, 1983; Wylie, 1993; Yochum, 1991), others have attempted to derive a measure of the interaction (Alexander & Kulikowich, 1991; Alexander et al., 1989; Ohlhausen & Roller, 1988). It may be convenient to categorize the interaction studies according to the variables investigated in addition to domain knowledge. Two groups of studies will be discussed: those that focus on the interaction between prior knowledge and use of text structure, and those that focus on the interaction between prior knowledge and analogical reasoning. Methods used to measure the interactive use of prior knowledge and comprehension strategies are of particular importance to the process of development described later in this article.

Ohlhausen and Roller (1988) focused on the use of text structure. They defined text structure in terms of the amount of signaling present in the text, including headings, sentences that signal subsequent content, and connectives. No measure of domain knowledge was included in the study. Text was constructed about a little known country in three versions: content support, text structure support, and both content and text structure support. They employed text contrived to maximize the use of content organized around a nation frame (Armbruster & Anderson, 1982) to include information generally found in a description of a country, but it lacked signaling. Text contrived to maximize the use of text structure included strong signaling including headings, signal sentences, and overt connectives. No direct measure of the interactive use of text structure and prior knowledge was used. Rather, it was assumed by the researchers that comprehension scores on each of the text types provided a measure of the isolated and interactive use of prior knowledge and text structure.

Olhausen and Roller (1988) directed subjects at four grade levels: fifth, seventh, ninth, and college, to read and study a randomly assigned passage three times. Subjects then underlined the seven sentences they considered to be most important and explained their choices in a written protocol. For all except the fifth graders, performance on the text written with both content and text structure support was significantly higher than performance on the other text types. Subjects at higher educational levels performed significantly better than those at lower grade levels. Ohlhausen and Roller concluded that content and structure schemata interact with educational level and text during reading. However, it may be that rather than measuring the interactive use of knowledge, the content/structure text version simply provided more information, thereby increasing comprehension.

Alexander and her colleagues (Alexander & Kulikowich, 1991; Alexander et al., 1989) focused on the use of analogical reasoning. They reported on three unique studies that employed a direct measure of the interactive use of prior knowledge and the comprehension strategy of interest, analogical reasoning, at different grade levels. They constructed experimental text passages in two forms, analogical and nonanalogical. Three independent variables were assessed. A vocabulary test was the measure of domain knowledge. The measure of analogical reasoning involved figural analogies. The measure of interactive use of prior knowledge and analogical reasoning consisted of verbal analogies drawn from the domain of interest. Subjects read an analogical and nonanalogical version of the experimental text on two different topics and took a multiple-choice test of comprehension immediately after reading each passage.

In the first study with sixth grade subjects, all predictors were significant predictors of comprehension for the analogic passage, with interactive knowledge more important than domain knowledge, and analogic reasoning least important. For the nonanalogic version, all predictors were significant, but in a different order. Domain knowledge was more important than interactive knowledge. Scores on the analogical and non-analogical passage tests were not significantly different for the sixth grade subjects.

At the high school level, only one predictor proved to be significant for each text version. For subjects who read the analogic version, the interactive measure was the significant predictor, whereas for the nonanalogic version the domain knowledge measure was the significant predictor. The analogic scores were significantly higher than the nonanalogic scores.

At the college level, there were no significant predictors of comprehension of scientific text. Alexander and Kulikowich (1991) concluded that for these college students, reading comprehension with or without analogies represented the same construct.

Ohlhausen and Roller (1988) and Alexander and Kulikowich (1991) isolated the comprehension strategies of text structure and analogical reasoning, respectively, in their research. Because it is difficult to separate the process of comprehension into isolated strategies (Davis, 1972), it would seem appropriate to examine the interactive use of prior knowledge and holistic reading comprehension ability.

The Use of Cloze to Measure Intersentential Comprehension

A measure of interactive knowledge must assess a subject's ability to use domain knowledge and comprehension strategies simultaneously. Research has shown that both domain knowledge and strategic reading ability influence performance on cloze tests (DeSanti, 1989). A cloze test is constructed by selecting a text passage, leaving the first and last sentences intact, and deleting every nth word. Typically, n ranges from 5 to 11. Regular deletions result in both content and function words being omitted. The reader must use domain knowledge to supply content words and comprehension strategies to supply function words (Abraham & Chapelle, 1992). DeSanti (1989) concluded that a reader's ability to complete a cloze exercise requires vocabulary knowledge and intersentential comprehension.

The use of cloze to measure intersentential comprehension is supported in the research literature (Abraham & Chapelle, 1992; DeSanti, 1989; Gamarra

& Jonz, 1987; McKenna & Layton, 1990; Rankin & Thomas, 1980). There are, however, studies that do not support the use of cloze measures to measure intersentential comprehension (Kamil, Smith-Burke, & Rodriguez-Brown, 1986; Kibby, 1980; Shanahan, Kamil, & Tobin, 1982). Many of the cloze studies used methodology that compared subjects' performance on normal cloze tests to performance on cloze tests using scrambled text. If performance was not significantly different on a cloze measure derived from scrambled text, then cloze measured intrasentential, rather than intersentential, comprehension processes (Shanahan et al., 1982). Some studies found no significant differences between performance on the two cloze types (Kamil et al., 1986; Kibby, 1980; Shanahan et al., 1982), whereas other studies found significant differences in performance on the normal and scrambled cloze passages (Gamarra & Jonz, 1987; McKenna & Layton, 1990; Ramanauskas, 1972). Kibby (1980) used passages of only one paragraph in length. Subjects read two paragraphs, each approximately 250-280 words in length, and were allowed one hour to complete the task. Shanahan et al. (1982) and Kamil et al. (1986) used a collection type text, which is not significantly affected by the scrambling of sentences (Gamarra & Jonz, 1987). Research findings based on cloze passages appear to vary with the difficulty of the text, subject familiarity with the text topic, and the structure of the text with respect to the importance of sentence sequence.

Studies that found a significant difference between cloze scores on scrambled and unscrambled text were more numerous than those that did not. Although alternative explanations for a lack of significance between scrambled and unscrambled scores are possible, there is much evidence to support a cloze test as a measure of the interactive use of prior knowledge and holistic reading comprehension ability. In the following discussion, the development and validation of a cloze measure is described.

Development and Validation of a Cloze Measure

Subjects who participated in the development-validation study were undergraduate students enrolled in content area reading classes at a public university located in northwestern South Carolina. The university has a total student population of 15,700. The average Scholastic Aptitude Test score of the 2,950 students accepted for admittance in the fall of 1993 was 1058. Fourteen percent of the 1992-1993 student body qualified for the Pell Grant program, a financial aid program for students in low income families.

Most students enrolled in content area reading classes were juniors or seniors earning their first undergraduate degree. Ten percent of the subjects were returning to college to earn a second degree to qualify for secondary school certification. All students were preparing for a career in secondary school teaching with course concentrations in mathematics, biological sciences, physical sciences, earth sciences, history, psychology, English, or foreign languages.

Students enrolled in the content area reading course had completed coursework comparable to that required for a major in their respective areas of concentration. Reading expository text had been an integral part of their college coursework. Content area reading students were selected for the study based on the assumption that these students were competent readers of expository text and that these students varied in the quantity and quality of domain knowledge in selected topics in biology. Subjects were given course credit for participation in all experimental sessions. Student enrollment in the content reading course for the semester during which data were collected was 63. Data from two subjects were incomplete, resulting in complete data sets for 61 subjects. Forty-nine percent (n = 30) of the subjects were female. Minorities comprised 15% (n = 9) of the subject pool, 78% (n = 7) of those were African Americans. The distribution of majors among subjects was as follows: 34% (n = 21) were social science majors, 33% (n = 20) were mathematics majors, 15% (n = 9) were English majors, 5% (n = 3) were foreign language (German) majors, 3% (n = 2) were special education majors, and 10% (n = 6) were science majors. Sixty-seven percent (n = 4) of the science majors had course concentrations in biological sciences. A small percentage (3%, n = 2) were participants in MilCert, a project funded by the federal government and designed to train retiring members of the military as secondary classroom teachers.

The cloze test prepared for this research was based on a natural text passage excerpted from an introductory-level college biology textbook not in use at the university where the research was conducted. All secondary education majors are required to take two semesters of biology in partial fulfillment of science course requirements for their major, although all subjects had not completed the requirement at the time of data collection. The passage topic was meiosis. The first and last sentences of the passage were left intact. The first deletion was chosen at random, and every seventh word after the first deletion was replaced with a line ten characters long, creating a blank. A total of 50 words were replaced with blanks of equal length. Technical terms specific to biology comprised 36% of the deletions. The remaining deletions were functional and/or general terms.

To validate the use of this cloze passage to measure interactive use of prior knowledge and comprehension strategies, eight subjects (13%) were asked to complete the measure orally, and to think aloud as they did so. Protocols were transcribed and transcripts of subjects' think aloud sessions were inspected for the use of three information sources: text (context clues), knowledge of language structure (syntax), and scientific knowledge (prior knowledge). A professor of reading education who teaches in the Department of Elementary and Secondary Education at the university where data were collected was trained in the analysis procedure. Statements such as "Because I remember from high school biology where it separated and know it had half the number" or "I had that in a course last year" indicated that subjects were relying on prior knowledge to fill in a missing term. Statements such as "Because of the dash, I am assuming they are going to give me a number here" or "because everything else is in two sets" indicated that subjects were using clues found in the text to fill in a missing term. Statements such as "I figured it must be something to do with something that's already happened so I went back up and tried to figure out what had happened" or "I have a complete blank so I'll just read on" provided evidence of the use of comprehension strategies. The researcher and the reading professor analyzed the transcripts independently. Interrater reliability was .93.

Conclusion

Subjects who primarily used one information source, either information derived from the text or derived from prior knowledge, correctly supplied answers for less than 40% of the deletions, which indicated that the text was at their frustration reading level. In contrast, subjects who evidenced a more balanced use of prior knowledge, context clues, and language clues scored between 40% and 60%, which indicated that the text was at their instructional reading level. In addition, subjects who reported simultaneously using more than one knowledge source to generate missing words scored above 60%, which indicated that the text was at their independent reading level. This evidence indicates that scores on the cloze measure reflected subjects' ability to use prior knowledge and comprehension strategies interactively when reading scientific text.

In summary, research that investigates the interactive use of prior knowledge and comprehension strategies must have a valid measure of the interactive use of these two variables. Based on the results of the research reported here, cloze instruments constructed from naturally occurring expository text represent a viable measure of the interactive use of prior knowledge and comprehension strategies.

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THE EFFECTS OF UNFAMILIAR WORDS ON THE PROCESSING OF PROPOSITIONS IN CONNECTED DISCOURSE

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Abstract

This study investigated whether the presence of an unfamiliar word in a proposition interfered with comprehension processing. Results suggest that readers may not only fail to process the particular word concepts represented by the unfamiliar words, but they also may fail to process the entire propositions in which these word concepts are elements. Problems processing one element of a proposition seem to result in problems processing the other elements of the proposition.

Perhaps all readers have had the experience of reading passages in which they encounter words with which they are unfamiliar. Skilled readers do not always resort to the use of a dictionary to "learn" the meaning of the unfamiliar words. Often they continue reading and derive meaning for the words from the context in which the words are used. Similar occurrences involve oral/aural language, when unfamiliar words are heard and their meaning is inferred from context. To effectively study how a person derives meanings for words from the use of context, a model for how a person processes text semantically is valuable. A model that could be applied to both oral and written text and to languages other than English would be especially useful. Thus, the model proposed by Kintsch (1974) is appropriate for this study.

Skilled readers try to integrate newly presented information with information that has already been presented in the text and is now stored in memory (Haviland & Clark, 1974). They try to form an integrated representation of the sentences in the text (Bransford & Franks, 1971). This process occurs as reading is taking place (Garrod & Sanford, 1981). In creating meaning from text, skilled readers segment sentences into meaningful units to be processed (Fodor & Bever, 1965; Kintsch, 1974). Written discourse is not processed simply as a series of words, but it is processed as interrelated concepts to be organized into a meaningful structure (Kintsch, 1974; Bransford & Franks, 1971; Kolers, 1970).

When a reader encounters an unknown word while reading a text, the unknown is related to other word concepts in the context of the "meaningful unit" that is being processed. If the reader is to derive meaning for the unknown word, he/she must infer it from the information presented in the context of the discourse and from his/her own prior knowledge. The inferring of the meanings of unfamiliar words from context can be seen as a process of creating meaning for the new word from attributes and contexts that are familiar (Li, 1988). To be of help, the contextual clues the reader uses must be perceptually and conceptually familiar and contain the necessary information to determine a relevant schema. The meaning of an unknown word is created by inferring relationships among the parts of a text and between the text and the real world (Li, 1988). "Bridging information" allows the inferring of meaning for an unfamiliar word in context (Garrod & Sanford, 1981).

When processing information contained in connected discourse, a reader is limited by restrictions of short-term memory. Gough (1972) found short-term memory to contain about four to five verbal units. Kintsch and van Dijk (1978) proposed that it may contain as little as a single proposition and a currently dominant macroproposition. It might be assumed that when a reader encounters an unfamiliar word, he/she will look within the current semantic unit which is being processed for information about the unknown word's possible meaning. This information may then be related to the dominant semantic unit being held in short-term memory. For further information, the reader must proceed with the reading of the text, consult long-term memory, or both.

Propositions are units of meaning consisting of two or more word concepts (see Appendix for examples). Propositions consist of relational terms (often verbs) and arguments (nouns, noun phrases, or embedded propositions). Thus, propositions are relational units of meaning that tie multiple word concepts together (Horning, 1987; Kintsch & van Dijk, 1978). Propositions can be superordinate or subordinate. A proposition B is subordinate to a proposition A if A precedes B in the list of propositions of the text and if A and B have at least one common term. Thus, an hierarchical ordering of propositions found in a text can be established (Horning, 1987; Kintsch & van Dijk, 1978). The propositions are related to each other by a repetition of terms contained in them.

Kintsch's (1974) model assumes that comprehension is composed of several processes operating in series or parallel. All processing is assumed to take some of a limited amount of capacity available to a reader at any given time. Memory storage and response production are thought to require a great deal of capacity. Meaning is expressed by a series of propositions (Samuels & Kamil, 1984).

According to this model of the process of reading a reader retains propositions in his short-term memory buffer. If connections are found between new, incoming propositions and those in the memory buffer, the input is accepted as coherent. If no connections are found, the reader searches his long-term memory to find a proposition to which to connect the new input. If no connection can be found at all, the reader must make an inference to establish a connection so that coherence for the text can be maintained. Because short-term memory is seen to be limited, the current incoming proposition and a current dominant proposition may be all that are present in short-term memory at any given moment (Samuels & Kamil, 1984; Kintsch & van Dijk, 1978; Gough, 1972).

The main idea of a text emerges as common elements of propositions are maintained through repeated validation. For propositions to be held over for additional processing, they are likely to contain information that is relevant to the entire text. It is the most important propositions that are retained for further processing (Richgels, 1982; Miller & Kintsch, 1980).

Propositional analysis can deal with the sentence level as well as larger levels of discourse processing (Kintsch & van Dijk, 1978). Thus, the model is appropriate for examining how parts of a text are processed in terms of their semantic content. If a pseudoword is substituted for an argument in a proposition and in its subordinate propositions, two issues arise. Do propositions containing pseudowords maintain their nature as units of meaning? Does the presence of an unfamiliar word in a proposition interfere with the processing of that proposition? An interference with the processing of particular propositions should result in difficulty recalling those propositions after reading a text containing them.

Method

To try to answer these questions, 27 students in a sixth grade class in a rural, northern New York public school were tested over a period of two days. Students were randomly assigned to experimental and control groups. The students were tested individually. They were told that they would be reading a passage aloud and, after they had finished reading, they would be asked to tell all that they remembered about the passage as if they were telling it to someone who had never heard it before. The students' responses for this study were taped on a portable tape player, and transcriptions of what the students said were made by the tester after the testings for use in scoring of the recalls.

A fifth grade word list from the *Informal Reading Inventory* by Burns and Roe (1989) was used to determine the approximate vocabulary reading level of each student. The word list was used to screen out any students who might be reading at their frustration level. Five errors or more were considered to be indicative of a frustration level.

A fifth grade expository passage from the *Qualitative Reading Inventory* by Leslie and Caldwell (1990) was used for this study. The passage was about Christopher Columbus. The control group read the passage as it appeared in its original form; the experimental group read an altered passage in which the word "sailors" was replaced by the pseudoword "daps" each time it appeared in the passage. A fifth grade passage was used rather than a sixth grade passage to increase the likelihood that each student would be reading at an independent or an instructional level. This increased the likelihood that the students were able to successfully process the text as a whole.

The passage was analyzed into a list of propositions by the tester (see Appendix). A separate list of propositions containing the word "sailors" or the pseudoword "daps" was constructed by extracting these propositions from the full list of propositions for the passage. This separate list was used for scoring the recalls of the students. The hierarchy of propositions containing the target words was constructed using the principles of the order of appearance of propositions and of the repetition of common elements within propositions throughout the text. This hierarchy was begun with the first statement that there were "sailors" or "daps" as it appeared in the passage. Criterion three of Turner and Greene's (1977) scoring procedures was used by the researcher to score the passages. A proposition was considered to be recalled if it was highly similar to the original text proposition or if it carried the same "gist" as the text proposition. Criterion three was used despite its inherent "vagueness" because this study was concerned with semantic processing and not with verbatim memory or expressive vocabulary. The propositions listed in the Appendix represent the passage used as it was analyzed by the tester. The relational terms or "predicates" are the first terms in each group; the following terms in each group are the "arguments." Propositions containing the target words that were used for scoring the recalls in the order of their appearance in the text are noted with an asterisk in the Appendix.

Two propositions from the top of this hierarchy and two propositions from the bottom of this hierarchy were selected for comparisons of their processing. A comparison between the groups was made to determine if either group recalled two propositions selected from near the top of the hierarchy significantly more often than the other group. A similar comparison between groups was made for two selected propositions from near the bottom of the hierarchy. Finally, a comparison was made for each group separately to determine if there was a significant difference in the amount of recall for the two selected propositions higher in the hierarchy when compared to the recall of the two selected propositions lower in the hierarchy.

Results

Thirteen students in the group reading the altered text recalled thirty-four propositions; the fourteen students in the group reading the original text recalled ninety-five propositions. The mean number of propositions recalled by the experimental group was 2.62. The mean number of propositions recalled by the control group was 6.79. This produced a "t" score of 2.82. This was more than the critical value of 2.060 for the twenty-seven students considered with a degree of freedom of twenty-five. There was, therefore, a significant difference in the recall of the propositions. The substitution of the pseudoword "daps" for the word "sailors" in the passage negatively affected the recall of the propositions of which it was an element.

When comparing the recall of propositions 58 and 60 from the top of the propositional hierarchy constructed for this study with the recall of propositions 106 and 107 at the bottom of the hierarchy by the experimental group using the altered text, the following results were obtained. The students in the group scored three for the total number of recalls of either propositions 58 or 60. No student on this group recalled either proposition 106 or proposition 107. This produced a "t" score for this group of thirteen students of 1.64 with a degree of freedom of twelve and a critical value of 2.179. There was no significant difference in the recall of the two pairs of propositions by this group. However, there is a possibility that the low overall recall affected the results of this comparison.

When comparing the recall of propositions 58 and 60 with the recall of propositions 106 and 107 by the control group using the original text, a significant difference was found. Propositions 58 and 60 were recalled a total number of sixteen times by this group. Propositions 106 and 107 were recalled a total number of seven times. This produced a "t" score of 3.05 for the fourteen students in this group with a degree of freedom of thirteen and a critical value of 2.160. The control group recalled the propositions near the top of the propositional hierarchy significantly more often than they recalled the propositions at the bottom of the hierarchy. These results are what one would expect according to Kintsch's theory.

When comparing the recall of propositions 58 and 60, two propositions high in the hierarchy, between the experimental and the control groups, a significant difference was found. The experimental group recalled the propositions a total number of three times with a mean average of 0.23 while the control group recalled the propositions a total number of sixteen times with a mean average of 1.14. The "t" score produced was 3.65 with a degree of freedom of twenty-five and a critical value of 2.060. The control group recalled these propositions significantly more often than the experimental group. Thus, the presence of the unfamiliar word "daps" appeared to negatively affect the recall of these propositions by the experimental group.

The comparison of the recall of propositions 106 and 107, two propositions low in the hierarchy, between the experimental and the control groups also produced a significant result. The experimental group reading the altered text did not recall these propositions at all; the control group reading the original text recalled these propositions a total of seven times. The mean score for the control group was 0.50. This produced a "t" score of 2.53. With a degree of freedom of twenty-five and a critical value of 2.060, it was determined that the control group recalled these propositions significantly more often than the experimental group using the altered text. The presence of the unfamiliar word "daps" appeared to negatively affect the recall of these propositions by the experimental group.

Discussion

It would be expected that, in processing a passage, students would process the propositions high in the text hierarchy more than the propositions low in the hierarchy. The elements of the higher propositions are repeatedly processed in the course of reading the text, so it is expected that they would become more firmly established in the minds of the readers. The results of this study for the control group show that the recall for the two selected propositions high in the hierarchy was better than the recall of the two propositions low in the hierarchy. This is what would be expected. However, the results for the experimental group show that there was not a significant difference in the recall of these propositions. The expected behavior did not occur.

If the presence of the unfamiliar word "daps" did not affect the processing of the propositions containing this pseudoword, then the recall of these propositions by the experimental group should be equal to the recall of these propositions by the control group. However, in all of the comparisons made, the control group recalled the target propositions more often than the experimental group recalled them. The recall of the target propositions was negatively affected by the presence of the unfamiliar word.

When examining the effect that unfamiliar words have on the processing of connected discourse, it is helpful to relate the processing of these words to the processing of the propositions of which they are a part. This study suggests that readers may not only fail to process the particular word concepts represented by the unfamiliar words, but they also may fail to process the entire propositions in which these word concepts are elements. Problems processing one element of a proposition seem to result in problems processing the other elements of the proposition.

This study attempted to assess the internalization of meaning when an unfamiliar word is present several times in a discourse. Recalls suggest meaning that has been incorporated into a schema possessed by the reader. Examined from this perspective, this study suggests that the comprehension of semantic relationships involving unfamiliar words as elements suffers because of the presence of these words. Propositions seem to be either processed successfully or not processed successfully as units even when unfamiliar words are present. The semantic relationships with the pseudoword were not generally processed with the pseudoword remaining still undefined.

While this study showed significant differences in the processing of text by the experimental and the control groups, the generalizability of the results is limited by several considerations. The size of the sample was small. A replication of the study using a larger sample would be appropriate. If a larger study were undertaken, multiple scorers might be used, so that an inter-rater reliability would be available. Also, it was assumed that "daps" represented an unfamiliar word, but this "word" might have interfered with the processing more than a nonsense symbol such as "@#$%^&." However, for this study, "daps" was used because it was assumed to be phonetically easy to read and was assumed to be less of a distraction than a nonsense symbol.

The derivation of meaning for unfamiliar words is a worthy topic for further research. Propositional analysis allows for a useful focus for such studies. Such future research is recommended.

Applications

Since unknown words seem to negatively affect the processing of text and since readers seem to be able to derive meaning for unknown words from the use of context, it would seem that readers should engage in the frequent reading of texts at their independent levels. Such texts might provide familiar contexts and information to help readers derive meaning for unknown words without a burden of unfamiliar words so large that text processing would be seriously disrupted.

Before instructors have students read particular texts, especially at their instructional level, it might be helpful if they would present words that are likely to be unfamiliar to these students and relate them to the prior knowledge possessed by the students. They might also ensure that the students are familiar with the word concepts to which the target words will be related by the propositions of the text since it seems that an unfamiliarity with any of the word concepts in a proposition might negatively affect the processing of the whole proposition. Thus, teachers might be able to aid students in using the relationships contained in the propositions of the text to develop meaning for the unfamiliar words.

Perhaps proposition analysis can act as a focus to alert educators where problems with vocabulary might affect comprehension or where appropriate semantic relationships might exist to support context and vocabulary instruction. The analysis might not have to be as formal as in this study; an awareness of the propositions contained in the text might be all that is necessary.

Proposition analysis might also be valuable as a tool for research on the processing of texts and the effect that vocabulary has on this processing. This methodology provides a researcher with a semantic focus which can highlight aspects of mental processing that might otherwise be overlooked.

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Appendix. Proposition List for Columbus Passage

P1—(QUALITY OF, ROUTE, ALL WATER)
P2—(QUALIFY, P1, TO EAST INDIES)
P3—(FIND, A:S, P2)
P4—(DETERMINE, A:COLUMBUS, G:P3)
P5—(REF., THIS, P2)
P6—(DISCOVER, A:S, O:P5)
P7—(REF., HIM, COLUMBUS)
P8—(CONJUNCTION: AND, FAME, FORTUNE)
P9—(BRING, A:S, O:P8, G:COLUMBUS)
P10—(CAUSALITY: WOULD, P6, P9)
P11—(QUALITY OF, WORLD, ROUND)
P12—(BELIEVE, A:COLUMBUS, O:P11)
P13—(CONJUNCTION: ALSO, P10, P12)
P14—(NUMBER OF, PEOPLE, MANY)
P15—(REF., THIS IDEA, P12)
P16—(LAUGH AT, A:P14, O:P15)
P17—(REF., THEY, P14)
P18—(QUALITY OF, WORLD, FLAT)
P19—(BELIEVE, E:P17, G:P18)
P20—(QUALIFY, THEORY, COLUMBUS'S)
P21—(PROVE, S:S, G:P20)
P22—(HOPE, A:COLUMBUS, G:P21)
P23—(REACH, A:S, G:THE EAST)
P24—(REF., HE, COLUMBUS)
P25—(SAIL, A:COLUMBUS, G:WEST)
P26—(CAUSALITY: IN ORDER TO, P25, P23)
P27—(QUALIFY, IDEA, COLUMBUS'S)
P28—(QUALITY OF, P27, MERITORIOUS)
P29—(CONJUNCTION: AND, KING
FERDINAND, QUEEN ISABELLA)
P30—(QUALIFY, P29, OF SPAIN)
P31—(BELIEVE, E:P30, G:P28)
P32—(QUALITY OF, WAR, COSTLY)
P33—(FIGHT, A:SPAIN, O:P32)
P34—(CONDITION: HOWEVER, P33, P31)
P35—(QUALITY OF, YEARS, LONG)
P36—(NUMBER OF, P35, SEVEN)
P37—(WAIT, A:COLUMBUS, G:P36)
P38—(REF., THEY, P29)
P39—(FINANCE, A:S, O:EXPEDITION)
P40—(REF., HIM, COLUMBUS)
P41—(GIVE, S:P29, G:COLUMBUS, O:MONEY)
P42—(PURPOSE, P41, P39)
P43—(TIME: THEN, P42, P37)
P44—(CONJUNCTION: AND, SHIP, SUPPLIES)
P45—(BUY, A:S, O:P44)
P46—(MANNER, P45, EASY)
*P47—(JOIN, A:DAPS, G:COLUMBUS)
*P48—(QUALIFY, P47, WILLING)
*P49—(FIND, A:COLUMBUS, O:P48)
*P50—(QUALIFY, P49, DIFFICULT)
P51—(CONJUNCTION: S, UNCHARTED,
UNEXPLORED)
P52—(QUALITY OF, ATLANTIC OCEAN, P51)
P53—(REF., HE, COLUMBUS)
P54—(SAIL, A:COLUMBUS)
P55—(LOCATION: ON, P54, P52)
P56—(TIME: IN, P55, 1492)
P57—(NUMBER OF, SHIPS, THREE)
*P58—(NUMBER OF, DAPS, NINETY)
P59—(CONJUNCTION: AND, P57, P58)
*P60—(POSSESS, A:COLUMBUS, O:P59)
P61—(CONJUNCTION: AND, NINA, PINTA,
SANTA MARIA)
P62—(QUALIFY, SHIPS, COLUMBUS'S)
P63—(NAME, P62, P61)
P64—(REF., THEY, DAPS)
*P65—(SEE, A:DAPS, O:LAND)
*P66—(NEGATE, P65)
*P67—(TIME, P66, FOR A MONTH)
*P68—(BECOME, E:DAPS, G:FRIGHTENED)
*P69—(TIME: AFTER, P68, P67)
P70—(QUALITY OF, EARTH, ROUND)
*P71—(BELIEVE, E:DAPS, G:P70)
*P72—(NEGATE, P71)
P73—(QUALIFY, FAR, TO EDGE)
P74—(QUALIFY, P73, TOO)
*P75—(SAIL, A:DAPS, G:P74)
*P76—(FEAR, E:DAPS)
*P77—(CAUSALITY, P76, P75)
P78—(SAIL, A:ONE)
P79—(LOCATION: UPON, P78,
SEA OF DARKNESS)
P80—(QUALIFY, P79, SO FAR)
P81—(NEGATE, P80)
*P82—(TALK, A:DAPS, G:MUTINY)
*P83—(FEAR, E:DAPS, O:NOTHING)
*P84—(CONVINCE, S:COLUMBUS, G:P83)
*P85—(TRY, A:COLUMBUS, O:P84)
P86—(REF., THEM, DAPS)
*P87—(GET, A:DAPS, O:GOLD)
*P88—(FINISH, A:DAPS, O:VOYAGE)
*P89—(CAUSALITY: IF, P88, P87)
*P90—(REMIND, A:COLUMBUS, O:DAPS, G:P89)
*P91—(BE, DAPS, FAMOUS)
*P92—(TELL, A:COLUMBUS, O:DAPS, G:P91)
*P93—(CONJUNCTION: AND, P90, P92)
P94—(CONJUNCTION: AND, TAKE OVER,
TURN BACK)
*P95—(THREATEN, A:DAPS, G:P94)
*P96—(CONCESSION: BUT STILL, P93, P95)
P97—(CONJUNCTION: AND, BRANCHES, LEAVES)
*P98—(SEE, E:DAPS, O:P97)
P99—(LOCATION: IN, P98, THE WATER)
*P100—(GO, A:DAPS)
*P101—(QUALIFY, P100, NO FARTHER)
*P102—(SEEM, E:S, G:P101)
*P103—(TIME: WHEN, P102, P99)
*P104—(FEEL, E:DAPS, G:BETTER)
*P105—(SAIL, A:DAPS)
*P106—(CONTINUE, A:DAPS, G:P105)
*P107—(AGREE, A:DAPS, G:P106)
P108—(CONJUNCTION: AND, P104, P107)
P109—(QUALITY OF, CALL, WELCOME)
P110—(SEE, E:S, O:LAND)
P111—(QUALITY OF, P109, P110)
P112—(HEAR, E:S, O:P111)
P113—(TIME, P112, 1492)
P114—(QUALITY OF, LAND, NEW)
P115—(CLAIM, A:COLUMBUS, O:P114)

BEST COPY AVAILABLE

P116—(CONDITION, FOR SPAIN, P115)
P117—(NAME, COLUMBUS, INHABITANTS, INDIANS)
P118—(QUALIFY, ROUTE, NEW)
P119—(QUALIFY, P118, TO THE EAST)
P120—(REF, HE, COLUMBUS)
P121—(FIND, A:COLUMBUS, O:P119)
P122—(BELIEVE, E:COLUMBUS, G:P121)
P123—(MANNER, P122, MISTAKENLY)
P124—(REACH, A:COLUMBUS, G:THE INDIES)
P125—(BELIEVE, E:COLUMBUS, O:P124)
P126—(DIE, A:COLUMBUS)
P127—(MANNER, P126, P125)

Note: This list of propositions starts with the beginning of the passage and progresses through the passage to its conclusion. Letters such as "A" or "G" represent categories such as agent or goal. The symbol "S" represents a concept that is not stated specifically in the text, but must be inferred.

*Note: *Denotes proposition list used for scoring.*

EARLY LEADERS IN LITERACY

Generations of literacy. In what ways have previous generations of literacy educators influenced our work and thought today? How will our current actions influence the future? In an effort to keep such connections visible, at the 1994 Conference in New Orleans the College Reading Association honored two individuals who have made outstanding lifetime contributions to literacy practice and research. Each honoree graciously agreed to the publication of their comments for the benefit of the entire CRA Yearbook readership. In addition, two CRA members who were significantly influenced early in their careers by the honorees were invited to share personal reflections. This section, then, provides a connection from past to present. The editors hope it can become a continuing part of the Yearbook series, to provide a personal and lasting record of the history of the profession and a link to the future.

This year's Early Leaders in Literacy were Jeannette Veatch, Professor Emeritus at Arizona State University, and Ira E. Aaron, Professor Emeritus at The University of Georgia.

READING FROM THE REAR VIEW MIRROR

Jeannette Veatch

Professor Emerita
Arizona State University

Jeannette Veatch began her career as an elementary teacher in Michigan and later became a teacher educator, researcher, and prolific author. Veatch is widely known for her early support of individualized reading programs using trade books and her challenges to basal readers. She holds a doctorate from New York University (1953) and currently resides in Phoenix, Arizona. Dr. Veatch's comments are followed by a reflection by Robert B. Cooter, Jr. of Austin Peay State University.

When I first started to teach in 1930, the basal reader system was considered infallible. As a major in Physical Education, legally employable, I knew nothing about reading instruction, or any other methodology for that matter. Those early months of my first teaching assignment were a struggle. But thanks to the superintendent's wife, fellow bridge-playing friends, and anyone I could find to give me information, I survived.

As a harbinger of my later interest in reading, I found a copy of Anna Cordt's (1929) book on teaching phonics in my school closet. From this book, along with donated copies of the *Normal Instructor,* I learned much. Incredibly, in 1932, I "did" creative writing so successfully that I never got over it, and it eventually became a part of my Ph.D. I was told not to waste the school day with non-textbook activities, so my pupils wrote mostly at home. I still can remember the first poem I received. It was about spring and it was lovely. I began to realize what literacy really meant.

We had formal spelling, too. Ten words a week from a "speller." But one day I noticed that words spelled correctly on the test were misspelled in an original story. The connection between writing and reading was a surprise discovery, and provided another upward thrust in my educational thinking.

Basal reader manuals implied that teaching was getting all children to do the same thing at the same time. This meant I had to *boss* them. I didn't like it one bit and began to change. In art, for example, no drawings were to be based on patterns. All drawing had to be original. The art teacher was not happy but did nothing to stop me.

The effect on my discipline was marked. I can still see a little boy in middle row saying in tears, "I don't *have* to do what you say!" He was right, and I began to examine my tendency to give orders. I learned then that you can run the show without violating individuality. My reaction to the "follow the manual" concept was that it was a completely authoritarian, undemocratic, inefficient, and ineffective way to teach reading. I never changed my mind. *Learning* to read and *wanting* to read are different.

Other developments towards spontaneity and originality crossed my horizon. How, I wondered did child actors act so *naturally*? In a magazine article I found they were coached to pretend the action was *real!* No memorizing of lines. No parroting speech.

One Christmas program drove that lesson home. Billy was a good reader so I dragooned him into telling the story of "The Birds' Christmas Tree" for our part of the program. When practicing, I realized that he had memorized the story, word for word. Soon he got stuck. I asked, "What happened then?" This turned him on. He launched into the tale with gusto. I relaxed as I knew he *knew* the story. On the day of the program, after the kindergarten and first grade offerings, which were awful, the audience became so noisy that I called Billy to me, and said, "Can you make them hear?" "Sure!" he said, and strode on to the stage, plunked his left foot forward and told his tale. He brought down the house! Another rung was added up my ladder away from traditionalism.

Similarly, I found I had to be inventive about seatwork. My second graders hated copying chalkboard exercises, so I set up tasks where projects required different responses. Different children had different results, and our room changed its decorative scheme. Much prettier!

I taught second grade for four years. Then, dissatisfied with my meager salary ($850 for 9 and 1/2 months), I went back to college for my second life certificate with a major in elementary education. Mirabile dictu, my intuitive experimenting of those first years was reinforced! My major professors disliked and ridiculed basal readers. Their love of trade books exposed me to new wonderful worlds, and pushed me even further away from the basal reader system.

Moving to Grand Rapids

The school system of Grand Rapids, Michigan, my next job, was unsurpassed in Progressive Education values. The superintendent had convinced his school board to pay travel and tuition for selected teachers to go to Teachers' College, Columbia and study with John Dewey, William H. Kilpatrick and others. A few even taught at the Horace Mann Lab School! These teachers later formed the structure by which the system and the curriculum in Grand Rapids were rebuilt.

It was a dream system. No more than six books of one title were allowed. Each school building had a completely equipped craft room (with kiln), a cooking room, and a fine arts room with full-wall bulletin boards for *large* pictures. New report cards that did not use A, B, and C bothered some teachers, but not me. Twice a semester I brought my typewriter to school, and discussed, academic and personal matters related to each child in writing. Competitiveness between children was nil, as only four report cards went out each morning and afternoon. Being in love with my job would have been an understatement.

Very soon a major development towards my use of trade books occurred. The P.T.A. found it had a $200 surplus! The decision was made to buy trade books and put them in an empty room down our hall. I was ecstatic and took my class there for reading almost daily. My children were enchanted. Soon I had to appoint a "librarian" to check books in and out. It worked so well that reading became a major activity, not only *in* school but at home! There was no question that trade books were the secret to teaching the love of reading.

Next, the excitement in reading splashed over into everything else in the classroom. As a dedicated news hound, I set up panel news discussions three times a week. With daily papers, one from New York, the problems of the world were explored and answers to them hazarded. The wisdom of eleven-year-olds amazed me.

Incredibly, still another major development occurred. Alvina Burrows' classic *They All Want to Write* (1939) came out. Never was I so taken by a book. I had already found creative writing earlier, but this was much more comprehensive. Our class wrote and wrote. We also did radio programs. I still mourn that I no longer have the stories created by my children in that era. When I learned later that Alvina Burrows had studied with Hughes Mearns, a titan of creativity in the 1930's, I knew why her writing was so exciting to me.

There was more to come. Creative dramatics again appeared on my horizon. We put on play after play, without learning lines! We lived the way the Pilgrims left England, went to Holland and settled in America. King John got his comeuppance from the Magna Carta, culminating our study of democracy. We did Christmas and other holiday presentations that awed everyone who saw them. A lot of people, especially parents, came. Our program the day after Franklin D. Roosevelt died was memorable.

At that point, I realized the dilemma of melding reading, writing, and speaking into a spontaneous, creative whole was coming into focus for me. My teaching was a clear rejection of traditional practice. Our conservative math specialist principal never did understand the why of my success and marveled that reading achievement scores had sky-rocketed. No semester in those five years found my class with *less* than *three* times the expected class gain for the six months. I was giddy with delight.

But time was passing and I needed a master's degree. I learned that Ernest Melby, our idol from Northwestern University who had been fired for his avant garde educational ideas, was the new Dean at New York University. That was the place to go. Teachers' College at Columbia (with Roma Gans) was near by, but Melby was at N.Y.U. He was our magnet from the midwest. I left home and never went back.

My first summer (1946) in Greenwich Village at N.Y.U. met all my hopes and dreams, so I returned in the fall (with war bonds cashed and car sold—$500 profit!). The American Museum of Natural History needed staff; I was hired. My degree classes were intellectually challenging beyond belief. Unexpectedly, I also became a graduate student instructor teaching extension classes in our nation's capitol. The GI Bill was swamping all universities with students, including N.Y.U. For this I gave tremendous thanks.

While I was at N.Y.U., Alvina Burrows, in person, came into my life! We had desks together! Her new book, *Teaching Children in the Middle Grades* (1952), was just out and was as exciting and instructive as *They All Want to Write* (1932). The hundred pages on "Individualized Reading" is still the best description of that activity in the literature. Over innumerable lunches, we talked reading, writing, everything educational. It was sheer exhilaration. No wonder her influence on my work was profound.

Luckily, my professional growth continued. This time it came from Willard Olsen's *Child Development* (1952). His chapter on "Seeking, Self-Selection and Pacing" described, in detail, that process by which children *could* seek a book, select one and read it at their own pace. It was individualized reading in spades and a devastating attack upon basal systems. It set us all on fire, so to speak, and we bought hundreds of the leaflets of a shortened version of the approach. The publisher obviously did not realize that Olsen had laid a burgeoning attack upon their very profitable basal readers. At last we professionals had a more scientific answer to counteract those traditionalists who urged that children be taught to read material they had not chosen.

However, even though I understood how to teach reading without basals, I was still puzzled about how to teach beginning reading. How did you get children started? A few years later I found the answer from Sylvia Ashton-Warner. How I found her and her writing is a story in itself and needs to be told at another time. But *Teacher* and *Spinster*, in 1963 and 1958, cleared the way. Ashton-Warner's "Key Vocabulary" and Olsen's "Seeking, Self-Selection, and Pacing" did it. From then on, I was thoroughly comfortable as far as teaching reading was concerned.

My confidence grew and a writing invitation made the next rung on the ladder possible. Ben Brodinsky, the editor of *Educational Trends*, a weekly educational publication, wanted a full issue on "Individualized Reading." I accepted eagerly, with no suspicion a major nationwide interest on that topic was being set in motion.

In the early 1950's the field of reading was exploding. The white-coated clinic boys were dragged into a new International Reading Association. A new *Reading Teacher*, under the editorship of Nancy Larrick, was a clear departure from the past. Basal reader systems were being viewed suspiciously. Stories of six-figure royalties for major reading figures and corruption in statewide adoption practices were common knowledge. No one, though, considered the feelings of thousands of teachers struggling to teach reading with the worst possible materials.

The field was so volatile that the last major incident in my career growth was almost predictable. The whole story of this event is told in "Individualized Reading: A Personal Memoir" (Veatch, 1986). Briefly, at the International Reading Association (IRA) meeting in 1960, this writer accused the organization of unprofessional censorship of educational ideas. There had been no article or recognition, for example, of Individualized Reading in any of their publications or programs for five years. It was an uproarious meeting. Amazingly, in seven and one-half minutes, I was identified permanently, and nationally, as a rebel against traditional reading practice. It was six years before I was again invited to appear on an IRA convention program, and that presentation also was somewhat censored!

Since that time, the Whole Language movement, the latest in non-traditional educational developments, has come to the fore and benefitted greatly, I think, from these early contributors. Some educators, however, are still blissfully ignorant of significant literature *before* 1970. In this paper I have referred to many early contributors. All of these, including perhaps, not too modestly, myself, set the stage into which Whole Language has moved. We are shifting, in this last decade, closer to the Progressive Education movement and John Dewey than ever before. Let us hope that he is not spinning in his grave, and that progress burgeons.

As for me personally, these years since the 1970's have been pleasant and productive. My retirement, twenty years ago, has pushed me out of educational mainstream. But I still watch the field with great interest and some dismay. While the traditional basal reader system has been sharply altered, trade books are not yet well used. Horror stories of a whole class reading *Charlotte's Web* are too frequent. Such purchases of a trade book for an entire class is an egregious, shameful waste of money and literature. Olsen's "Seeking, Self Selection and Pacing" urgently needs revitalization. How this can be accomplished, I am not sure. If this tale of my growth in teaching is useful, the effort will be worthwhile. Hopefully, some may find help and inspiration herein.

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Reflection on Jeannette Veatch
by Robert B. Cooter, Jr.

I had the honor of meeting the legendary Jeannette Veatch (Jan to most) at the 1983 College Reading Association Annual Conference in Washington, D.C. She was seated in my Sunday morning presentation, one of only a handful, and asked many incisive questions. As a fellow just finishing doctoral work, I was pleased to have a chance to present at a national conference and equally pleased that a colleague would be interested enough to ask questions. Little did I know that I was being interrogated by one of the pioneers of reading education.

Jan Veatch was quite friendly and even suggested an area of future research based on work going on in California. I then had the audacity to ask Dr. Veatch if she would consent to do the study with me, which resulted in an article published in Language Arts*—my first in a major journal!*

Over the years Jan Veatch has been a great mentor. In 1986 I chatted with her about my belief that all teacher education professors should regularly return to the classroom full time to stay in touch and try out new ideas. I was considering such a project for the 1987-88 academic year, and Jan was as excited about the project as I was. One of my major goals was to try out many of the ideas whole language proponents were suggesting and compare the performance of my students to those in basal-only classes. Dr. Veatch asked, "So what grade do you plan to teach?" I responded that I wanted to return to my first love, third grade. Jan responded, "No, no, that's far too late. You need to teach kindergarten or first grade. That's where the real action is!" Later, Ray Reutzel and I decided to collaborate, he in Utah, me in Ohio, and we both taught first grade that year. This study, guided in the early stages in many respects by Jeannette Veatch, literally changed the focus of my career and led to many wonderful projects.

There are numerous unsung and nearly-unsung leaders in the whole language movement who have shaped the field and had a positive effect on children throughout the world. Sylvia Ashton-Warner of New Zealand is one. Her close friend and collaborator of many years, Jeannette Veatch, is another. Jan is a fearless proponent of teaching reading using great books and writing processes. Veatch practiced holistic teaching methods during World War II that would not become lauded in the United States until the 1980's. Her text, Reading in the Elementary School, *became a kind of bible for many who sought direction in holistic teaching. She has been an inspiration to many and more importantly, Jeannette Veatch exemplifies in every great sense what it means to be called "teacher".*

MY EXPERIENCES AS A LITERACY EDUCATOR

Ira E. Aaron

Professor Emeritus
University of Georgia

Ira E. Aaron prepared for a career as a journalist but became a teacher, school administrator, teacher educator, and researcher. Aaron served as president of the International Reading Association from 1983-84, is a member of the IRA Reading Hall of Fame, and received the IRA William S. Gray Citation of Merit in 1994. Aaron earned his doctorate at the University of Minnesota (1954) and was a leader in the development of the reading program at the University of Georgia. He currently resides in Athens, Georgia. Dr. Aaron's comments are followed by a personal reflection by Timothy V. Rasinski of Kent State University.

Early Influences

My preparation as a reading educator may seem strange. After completing a degree in journalism in 1941, I spent approximately four years in the United States Army Air Corps. Most of that time was devoted to security and intelligence duties. When I came out of the service soon after the end of World War II, jobs in journalism were not very plentiful, at least not in locations where I wanted to live. After an unsuccessful attempt to buy the small weekly newspaper in my home county, I headed back to college at the University of Georgia.

After earning a master's degree in Educational Administration, I became a teaching principal in my home county with the intention of running for the elective office of county school superintendent. However, just before the election, in which there would have been no opposition, I accepted a position in the College of Education at the University of Georgia. Although I was hired in the Bureau of Educational Studies and Field Services to edit educational publications, my full-time editing responsibilities lasted only three days. I was then assigned to teach two large overflow sections of undergraduate Educational Psychology. After a year and a half of teaching, editing, and working on school system surveys, I went to the University of Minnesota to work toward a doctorate in Educational Psychology.

After earning my Ph. D. in 1954, I returned to the University of Georgia as director of the Bureau of Educational Studies and Field Services and also taught Educational Psychology courses. At that time, the University of Georgia, like most institutions, gave no attention to reading as a field of study. There was only one reading methods course, which was offered two or three times per year. In 1956, we developed a reading clinic, staffed by a one-third time graduate assistant plus a part of my assigned time. We soon added a diagnostic and corrective reading course. Gradually, we developed master's and then doctoral programs. The faculty grew to more than a dozen plus a good number of graduate assistants. Much of my time and effort during that growing period went into program building.

Professional Influences

My earlier experiences certainly influenced what came later. The greatest influence in my University of Minnesota studies came from contacts with Guy L. Bond, who co-advised my dissertation and taught me in several courses. In the late 1940s, Dr. Bond was one of few who were writing college texts on elementary, secondary, and remedial reading. Most of my early background in reading came from his courses and textbooks. At Minnesota, I also was thoroughly grounded in statistics, research methodology, and educational measurement. These experiences gave me some of the knowledge I needed to direct the research of doctoral students. Preparing for a career in the area of reading by earning a doctorate in Educational Psychology was not unusual at the time. Most of the top leaders in the field of reading in the 1940s and the 1950s had doctorates in some branch of psychology.

For many years, I headed the doctoral seminar at the University of Georgia for reading education candidates and twice a year taught a course on "Critique of Reading Literature." These responsibilities caused me to attempt to keep abreast of everything—good, bad, or indifferent—happening in the field.

Changes and Issues Over the Years

In the late 1940's and for several decades following, most elementary reading instructional programs leaned heavily upon basal readers. Most of the early nationally-known leaders in reading were associated with some basal series and also were involved in preparation programs in reading.

Instructional approaches and materials proposed for use since the 1940's have been numerous. Some of these approaches might be thought of as total whereas others were partial or supplementary approaches. A few of these flashed briefly across the academic horizon and then quickly faded away, with little to show that they had been around. The Initial Teaching Alphabet (both British and American versions) is an example of this. Some, such as the Language Experience and Individualized Reading approaches, left lasting, good changes in many instructional programs. But throughout, the basal series kept moving along, but at a slower pace. We've also had a variety of patterns of organization for reading instruction, running the gamut from whole class, to three or more subgroups, to cross-class, to cross-grade, to grouping by invitation, and so on.

Over the past 50 years, various attacks have been launched against almost all approaches—and many individual practices—used in reading instruction. Almost all approaches have been supported strongly by some and condemned by others. One of the earliest battles I recall was that between specific basal programs (mostly Scott, Foresman, because of its wide use) and a program with a heavy emphasis on phonics (Economy). Then we had Language Experience vs. basals and Individualized Reading vs. basals. Now we have Literature-Based and Whole Language vs. basals. If you've studied recently published basals and the teachers' editions accompanying them, you have seen the influences of the Whole Language movement.

All instructional approaches (or philosophies) have strengths and possible weaknesses. Let's look at Whole Language. Among the positive factors are the focus on children; it's child-centered. It depends heavily upon the use of children's library books; it advocates the use of informal assessment procedures. Possible weaknesses are that skill instruction may be neglected and too much whole-class instruction may be used. These observations come from reading descriptions of Whole Language programs in professional journals and from hearing reports given at professional meetings. For example, ERIC Clearing House's recently published *Whole Language: The Debate* (Smith, 1994) contains articles by supporters and critics of whole language.

Many characteristics of Jan Veatch's Individualized Reading and Whole Language are similar. I was in the general session at an early International Reading Association (1960) annual meeting in New York when Jan debated the issues with Paul Witty and Emmett Betts. The packed audience supported Jan, whether or not they were in total agreement with her, because of her fortitude in facing off against two reading giants.

Issues have a way of recurring from time to time. A good example, not limited to the field of reading, is the recently published *The Bell Curve*, written by Richard J. Herrnstein and Charles Murray (1994). When the topic is intelligence and class structure, it's not surprising that it generates more emotion than reason. A quick reading of parts of the book will show that some of the people discussing the book have not read it. Data similar to those on which the book is based were available years ago. I encountered studies much like those presented in the book in individual differences courses I took in the first quarter of my doctoral study. The interpretations, however, are somewhat different. Reactions to the book range from strong support to condemnation of the authors' viewpoints. Reactions to some reading approaches and practices reveal similar contrasting views.

Though teachers have used trade books in their reading programs in the past, many more teachers today are using them as vital parts of their reading instructional programs, regardless of the main approach or philosophy guiding the program. Many more children's books are available today. Each year, in the United States, approximately 5,000 new titles are published, double the number published 12 to 15 years ago. In addition, many more children's books from other English-speaking countries are coming into the United States today as compared with just a few years ago. Children's books should be a vital part of any reading instructional program, regardless of what the approach happens to be called.

In Closing

Today's teachers of reading know how to teach reading more effectively and know more about children's literature than the teachers who came before them. Issues and approaches will come and go—and some will return in different form. Well-prepared, caring teachers can, in the long run, be depended upon to make the right decisions about reading instruction.

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Reflection on Ira Aaron

by Timothy V. Rasinski

My first meeting with Dr. Ira Aaron came during the 1985 IRA convention in New Orleans. I was finishing my doctoral studies at Ohio State and was desperately seeking employment. I was lucky enough to make the short list for a job at the University of Georgia and was scheduled for a breakfast meeting with Dr. Ira at the Marriott. Well I must have spent too much time on Bourbon Street the night before because instead of going to the Marriott I went to the Holiday Inn. By the time I discovered my mistake and made it to the right hotel I was a half hour late. "You dope," I thought to myself, "you just blew yourself out of that job."

Yet, when I finally caught up with Dr. Ira, I learned why one of my own mentors, Martha King, called him one of the "true gentlemen" of our profession. His hospitality and graciousness were truly welcomed by this klutz of a graduate student!

I don't know how it happened, but I was offered a position at Georgia and I accepted it. By this time Dr. Ira had retired from the university. Still, over the next several years I had many opportunities to chat with Dr. Ira—usually over coffee in the Aderhold Hall lunchroom, but also at lunch at the Georgia Center, at UGA football games to which he invited me, or at meetings of the Northeast Georgia Chapter of the IRA.

I always enjoyed talking with Dr. Ira. He could converse as easily about the newest trade books for children or the latest research in RRQ as he could about the prospects for the Bulldogs in the upcoming football season. More important though, he always seemed very interested in me, a lowly assistant professor, and my work.

In Dr. Ira's paper he says that "Well-prepared, caring teachers can, in the long run, be depended upon to make the right decisions about reading instruction." I think he's right on target in that statement. Moreover, I think that that statement provides an accurate description of Dr. Ira himself. He is a professional teacher, always prepared and always current, who cared about his university students and about the children of Georgia and the nation.

TEACHER PHILOSOPHY AND LITERACY

THE FREEDOM TO TEACH: A GLIMPSE OF SCHOOLING AND READING INSTRUCTION IN TODAY'S RUSSIA

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Abstract

Since President Gorbachev's proclamation of perestroika *and the collapse of the Communist Party, Russian institutions have undergone tremendous restructuring, and sweeping changes have been recommended for education in particular. But is true change occurring in modern day Russia? What are the impediments to change? This chapter will share the experiences of one group of North American educators who visited elementary classrooms in St. Petersburg and Moscow during October of 1993. The educators will tell about consistency and change in the Russian educational system, explore Russian methods for teaching beginning reading, and discuss the implications of "perestroika" as viewed by Russian educators living through extremely challenging times.*

Through most of the 1980s, the position of Soviet education was characteristic of a totalitarian Communist society. The purpose of Soviet education, under Communist rule, was to produce citizens who were collectively devoted to the State and the Communist party. To accomplish this, all aspects of education were highly centralized and emphasized uniformity. In this system, teachers worked as bureaucrats, carrying out Communist party and government dictates, and learners were viewed as objects devoid of individuality (Davydov, 1995).

The Need for Educational Reform

In the 1980s, political, economical, and educational troubles in the Soviet Union indicated that this Communist society was not functioning as intended. Republics began to secede from the Union, causing an economic drain on the country as a whole. The ruble began to be devalued on world markets, and Soviets found themselves dealing with double digit inflation. State-run collective farms were unable to efficiently harvest and distribute crops and meat. In addition, Soviets were dissatisfied with the educational system. As many as 40% of Soviet students claimed to have no desire to attend school and up to 50% were not satisfied with the knowledge they acquired in school (Long, 1990, p. 41). These significant social ills indicated that Soviet society, and education in particular, could no longer continue viewing individuals as "citizen-cogs" (Davydov, 1995, p. 12).

During this time period, Former Soviet President Gorbachev popularized the notion of *perestroika* (i.e., restructuring), and it became the catalyst for many reform efforts in modern-day Russia, including educational reform. Under Gorbachev's leadership, the first Congress of the People's Deputies of the USSR met in Moscow in the summer of 1989 and produced a document that outlined the future direction of domestic and foreign policy. This Congress, which is the highest governmental body in the Soviet Union, severely criticized Communist structures. The resolution demanded that two key principles, democratization and humanization, be the basis of all Soviet social activity (Brodinsky, 1992).

The Definitions of Educational Reform

In 1990, Edward Dneprov was appointed Minister of Education for the Russian Republic. His charge was to operationally define the principles of democratization and humanization as they apply to education. In Dneprov's mind, the term "democratization" suggested movement and process and dealt mainly with "the development of the capacity to make choices and to work collaboratively with others in making choices that affect more than one person" (Dneprov as cited in Rust, 1992, p. 376). Humanization included learning the humanities as well as providing a humanistic education.

> We wish to draw the people of the Russian Republic more clearly into the European educational tradition, so we wish to incorporate humanities studies into our program, including western philosophy, history, literature, art, and so on. In addition, we wish to develop programs that are truly child-centered or human-centered. We are attempting to create educational environments that focus on the full development of a student's personality (Dneprov as cited in Rust, 1992, p. 376).

However, it was not until after the political coup of August 1991 that implementation of the principles of democratization and humanization began.

The Implementation of Educational Reform

In 1992, the Education Reform Law was enacted as an "effort to decentralize, personalize, and overhaul schooling . . . going from a 'political paradigm' to a 'teaching paradigm,' from a 'totalitarian society' to a 'civic society'" (Bridgeman, 1994, p. 20). Whereas the State once dictated what would be taught each day in every school throughout the Russian Republic, teachers would now be permitted to design their own curricula, use their own texts and materials as well as teach previously banned topics.

The ideals and principles of educational reform in Russia are noteworthy, but are these ideals too abstract to be implemented in schools and classrooms? Are teachers ready to accept the challenge of sweeping reform, given the fact that for the past three generations they have played a follower's role? Dneprov has admitted that "one of the weaknesses of Russians has always been the tendency to separate theory from reality. That was the problem during the past 70 years of Soviet rule. We had a beautiful theoretical orientation, but it was translated by technocrats and bureaucrats into a totalitarian state" (Dneprov as cited in Rust, 1992, p. 576). The awareness of this weakness raises a significant question. To what extent is change actually occurring in Russian classrooms?

To help answer this question, a group of North American reading educators traveled to Russia in October 1993 and visited schools. The purpose of the trip was to act as citizen ambassadors and participate in bilateral exchanges with Russian educators. The group felt honored to have this opportunity, since before *perestroika* exchanges such as this were not permitted by the Russian government. They were very much interested in observing first-hand the effects of educational reform in Russia. The trip was organized by People to People International, and they selected schools to visit based on input from their Russian colleagues. The group spent time in St. Petersburg and Moscow visiting 8 schools and 18 classrooms. What follows is an account of what was learned about Russian education as a result of talking with teachers, administrators, and students and observing classrooms.

Consistencies Within Russian Education

Although sweeping reforms have been proposed for Soviet education, some aspects of schooling, such as the school day and calendar, remain as they were in the past. The school year continues to run 26 weeks from September through May with two-week breaks in November, December, and April. Classes are held Monday through Friday and are usually 45 minutes in length, with a 15 minute break between lessons. Typically, elementary children (grades 1-4) participate in five lessons per day while secondary students (grades 5-11) participate in seven lessons.

Methods of evaluation of Russian students have also remained constant. While visiting schools, it was noticed that each child carried a special notebook. The notebook serves as a report card and is an integral part of the home-school connection. During each lesson, the teacher evaluates students' academic performance using a scale of 1 to 5 (5 represents excellent performance). In addition to an academic evaluation, the teacher also gives a daily grade for behavior. Both grades are recorded in the notebook. At the end of the week, students share the notebooks with their parents, who sign them. Once every two or three weeks, parents are invited to the school to discuss their child's progress with the teacher.

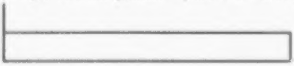
Since one of the principles of socialism is employment for all, most children come from families where both parents work. Therefore, Russian schools provide supervision and meals for children either before or after school. This has not changed as a result of reform efforts. Typically, students who stay at school do their homework during this time, participate in sports and clubs, or receive extra tutoring if needed. Viewing television is not an option since Russian television is broadcast only for a few hours in the evenings. Students who go home rather than stay at school are usually cared for by their grandparents since extended families often share apartments.

In the cities of St. Petersburg and Moscow, schools are centrally located among apartment complexes and children walk to school. Classrooms were generally found to be warm and inviting even though the physical condition of some schools was poor. Draperies hung in the windows and plants rested on windowsills. Children sat attentively at wooden desks facing the chalkboard and always greeted the group of visiting teachers with enthusiastic smiles and respect. Teacher-made posters and student-made drawings and compositions decorated the beige walls. Most classrooms had a curtain over the chalkboard so that teachers could prepare lessons ahead of time, cover them, and at the appropriate moment in the lesson, pull back the curtain to reveal what was underneath. Often, children copied into their notebooks what the teacher had written on the board.

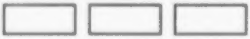
Much of the traditional curriculum remains in place in Russian schools. In elementary school, Russian children currently learn about the Russian language, Russian literature, mathematics, natural sciences and the arts. Beginning in grade 2, English is taught; beginning in grade 5, German is taught. If children demonstrate an aptitude for learning languages, they may also study French and Finnish. To be eligible for secondary school, students must pass a comprehensive exam on all aspects of the elementary curriculum. Once in secondary school, students study a variety of subjects such as chemistry, biology, physics, mathematics, additional foreign languages, and history. "Labor" lessons, which teach boys industrial arts and girls how to sew and cook, are also a part of the secondary curriculum. In addition, driver's education is available for both girls and boys. In the classrooms visited, most teachers and students were observed using textbooks. There were few store-bought instructional materials or supplemental trade books and empty book cases were noticed in most classrooms.

In many of the primary classrooms that were visited in St. Petersburg and Moscow, teachers and students used a basal titled *AZBUKA*. (This title represents the first three letters of the Cyrillic alphabet, which was brought to Russia centuries ago by two monks, Cyrill and Mephodius.) The underlying methodology of the *AZBUKA* text has been in use for over 100 years and is based on the work of Russian pedagogue, K. D. Ushinsky. Because the Russian language is phonetically regular, Ushinsky's analytic-synthetic method emphasizes the sound structure of words before the meaning. In addition, a system of shapes and counters are used as visual associations of sounds, syllables, spelling and syntax.

During the oral period, which occurs at the beginning of first grade, children learn that the long, rectangular symbol such as

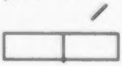


represents a sentence while a series of separate rectangles like the ones below represent the individual words that form a sentence.



Following the oral period, which lasts three or four weeks, the pronunciation and segmentation of individual words are stressed. First, syllabication is taught. Underneath pictures of well known objects such as "cat" and "rose," the word is written in a single rectangle and is divided into syllables.

Next, accented syllables are taught, and stress marks are indicated.



At this stage, children are given a quantity of cardboard counters. They are taught to say the words aloud with correct stress and to pronounce every sound in succession. As the children pronounce each word, they place a counter in the appropriate rectangle, further dividing each syllable into separate sounds. Ushinsky believed the combination of pronouncing words while manipulating the counters facilitates learning to read by emphasizing both visual and auditory aspects while also serving as a memory cue (Elkonin, 1973).

Teachers were observed using *AZBUKA* and the Ushinsky method in primary classrooms. For instance, at School #537 in St. Petersburg, a second grade teacher was reviewing the upper and lower case "C" and its sound. First, the teacher reviewed the previous lesson and children supplied words containing this letter and sound. Then the teacher introduced more words and phrases emphasizing "C" and /c/, which the children copied into their notebooks. For oral practice, the students used the counters and did a quick oral exercise, pronouncing words with "C" and /c/. Next, the teacher directed the students' attention to a poem written on the board, and students went to the board to underline and pronounce the appropriate "C" word or phrase. Finally, students copied a designated section of *AZBUKA* into their notebooks, and with a partner, orally read what had been copied. The lesson ended with a review of the new letter and sound. The emphasis on using the basal to teach sound-symbol correspondences was also prevalent in upper elementary grades.

Following group observations, discussion with teachers of School #537 revealed that for decades, teaching and learning in the Soviet classroom have followed a formal, prescribed series of steps. Usually the teacher begins the lesson with a review of the previous lesson, a review of homework, or listening to memorized material. During the second phase of the lesson, the teacher introduces new material, usually from a textbook, and assigns homework. During both phases the teacher is in charge—asking questions and giving permission for students to respond (Brodinsky, 1992).

Many Russian teachers still rely on the prescribed lesson format as well as the *AZBUKA* basal when teaching beginning reading. When asked why this was so, many teachers stated that they felt comfortable with traditional methods because the methods were effective in teaching children to read. In addition, teachers have no access to alternative basals or materials, and as it is, state-provided textbooks are often in short supply (Teacher interviews, School #537, St. Petersburg, Oct. 13, 1993). In this instance, it does not appear that teachers are embracing the principles of humanization, or child-centered instruction; however, it appeared, that to some extent, circumstances beyond the control of the teachers may be responsible.

Changes in Teaching Methods

Although teachers were observed using variations of Ushinsky's phonic method, some Russian educators feel that this traditional method does not completely reflect modern beliefs about the reading process. For instance, Dr. Tamara Ramzaeva, Dean of the Elementary Education Department at St. Petersburg Pedagogical University, believes reading instruction in Russia is undergoing change. Prior to *perestroika*, all teacher-preparation colleges and universities used the same methods text. In today's Russia, colleges and universities can choose which methods text to use, but again, the availability of new texts, especially college-level texts, is very limited. Nevertheless, St. Petersburg Pedagogical University is exposing its preservice teachers to the writings of Russian psychologist, Lev Vygotsky, to reflect the current shift from a focus emphasizing the linguistic aspects of language to a focus that also emphasizes cognitive, affective and cultural aspects of literacy (Ziganov & Vladimir, 1993). Preservice teachers are now learning about motivation and its role in learning (Interview with T. Ramzaeva, St. Petersburg, October 13, 1993).

Even the inservice teachers interviewed and observed are concerned with getting children enthused about their learning. Teachers at School #328 in St. Petersburg stated they were thrilled to have the opportunity to deviate from the standard lesson format required before *perestroika*, and they were having fun creating lessons to capture students' attention. One teacher, Valentina Kosmachevskaya, uses the problems in fairy tales to discuss morals and create enthusiasm for learning. Her lesson began with a discussion of a fairy tale that had been read. While leading the discussion, Valentina used body movement and facial expressions. Often she changed the tone and pitch of her voice, and all of the students appeared to follow the discussion with interest. At one point in the lesson, she had the students put their heads down on their desks. During this time she played music and donned a white lace cape. Instantly, she became a fairy from the tale they were discussing. Students were encouraged to imagine they were in the fairy tale while some students, who had worn costumes, went to the front of the room to enact the story. From the delighted grins on students' faces, it was apparent that she was very successful in creating an enthusiastic classroom.

At the Vzmakh School of St. Petersburg, one of the few private schools in the city, teachers were also trying different teaching methods. "Our focus is to motivate students to learn. We do not favor the old methods; our school is experimenting with the new" (Interview with Elena Morozova, Director, Vzmakh School, St. Petersburg, October 15, 1993). One first grade teacher taught a lesson involving a story similar to "The Three Little Pigs." After a short discussion, the students put their chairs in a circle, and both the children and the teacher huffed and puffed in unison as they recited the story. What followed was a rapid recitation session, loud and full of laughter. Within a few minutes, children began role playing, pigs dancing and snorting. Then children formed buildings with their hands which were subsequently blown down. Gauging by the amount of student involvement in this particular lesson, it appears as though some teachers are very successful at implementing the humanization aspect of Russian educational reform.

Some Russian teachers that were interviewed spoke of renewed interest in alternative types of schools, such as the private school just mentioned. A large number of Soviet educators also find the idea of the "lyceum" intriguing. The lyceum is typically intended for gifted students, and its curriculum usually includes Latin, ancient Greek, philosophy, logic, advanced mathematics, science, and anything else the school director feels is appropriate

(Brodinsky, 1992). Naturally, the group was excited to visit the Lyceum of Cyrill and Mephodius located in Moscow. This school was chartered in 1990, so at the time of the visit, it was in its third year of existence. The school reflects the teachings of Vygotsky and the curriculum is designed to develop social skills and thinking skills so that children will use logic to solve problems collaboratively. At present, the lyceum has 114 students in nine classrooms. The ratio of teachers to students is one to fifteen.

A brief observation of a second grade class at the Lyceum of Cyrill and Mephodius revealed much discussion and problem solving. Nine children and their teacher sat at desks positioned in a U shape, which allowed all participants to see one another. The goal of the lesson was to decide whether magical dreams exist. First, a question was written on the board, and students talked among themselves, discussing possible answers. Then the teacher encouraged the students to return to the text and locate passages that could provide clues to the answer. This was followed by each student reading orally from the text. The teacher again asked the class if it could answer the original question. Six of the nine students offered their opinions. The teacher then directed students' attention to the structure of the question itself. More discussion followed. The lesson ended with children rereading the text, continuing to ponder a logical response to the question on the board as well as the last question posed by the teacher.

In conversation with the teacher following this lesson, he articulated not only the school's philosophy but the principles of democratization and humanization as well. He had purposely selected this text for its philosophical dimension, and his suggestion for students to return to the text was a means to promote student engagement and discussion. He saw his role as that of a facilitator of discussion and as a catalyst for thinking. He was truly concerned that his students have the opportunity to consider choices before drawing a conclusion.

Changes in Sentiment and Curriculum

Not all of the educational reform happening in Russia today is in the hands of the classroom teacher. There are significant social changes that affect education as well. For instance, prior to the August coup of 1991, as an extra-curricular activity, children of all ages could participate in the Young Pioneers, which was a political organization for future Communists. The Young Pioneers typically wore uniforms and met after school hours on school property and the emphasis was on learning to be a good Communist. Although involvement with the Young Pioneers was an extra-curricular activity, the messages promoted by the organization were reinforced in Russian classrooms, where lessons about working on collective farms and disciplined study habits were taught. Today, as a result of *perestroika*, many types of special interest clubs involving sports, music, art, dance, and religion have replaced the Young Pioneer Clubs.

To further implement social change, textbooks are being written to remove the Communist influence of the past. So pervasive was this influence that even *AZBUKA*, the standard basal reader, has been revised to remove stories of Lenin helping children and illustrations depicting boys and girls in the Young Pioneers. For instance, in the 1990 edition of *AZBUKA*, the tallest boy in an illustration is a Young Pioneer. He is guiding younger children through a Young Pioneer exhibit. The picture illustrates the uniforms that children were required to wear to school during Communist rule. In the 1993 edition, there is an absence of uniforms, Young Pioneers and Communist influence.

History textbooks are being rewritten to reflect the "correct principles" in teaching Russian 20th century history. The "correct principles," as outlined by former Soviet President Gorbachev, must tell the truth about what happened during the Communist regime without demeaning or downgrading the achievements of the USSR. New texts must also reveal aspects of Soviet history that have been ignored or covered up. This means that as history textbooks of the future tell about Stalin and the Communist Party, they will also stress the Soviet achievements in wiping out illiteracy, in fighting Hitler, in space exploration, and in the march toward democracy under *perestroika* (Brodinsky, 1992, p. 381).

Summary and Conclusions

In summary, a wide variety of teaching practices were observed in the Russian classrooms visited. In some classrooms, teachers were using methodologies that are student-centered and require students to be active participants in their learning. The awareness of motivation in the learning process has also become an integral part of the thinking and planning of many Russian teachers. As elsewhere in the world, Russian educators are concerned with teaching students to think critically, to solve problems, and to collaborate with others. These observations lead to the conclusion that the principles of educational reform are being implemented in some Russian classrooms in St. Petersburg and Moscow.

From conversations with Russian educators, it is apparent there are significant impediments to educational reform in Russia. One of the major stumbling blocks is the Russian economy. On one level, the lack of new methods texts at teacher preparation institutions is slowing the reform process by preventing teacher educators from exercising their freedom to teach what they feel is appropriate. Similarly, classroom teachers who are trying to implement reform cite the lack of choice and availability of classroom materials as a critical deterrent to teacher empowerment. According to one educator: "Education is what we should begin with yet the government will not see this. Money is allocated for industry, agriculture, and only then education. Education must be the salvation."

The second major stumbling block to educational reform in Russia is the fact that not all Russians are in agreement with *perestroika*. Some teachers favor the formalized structure of a highly centralized educational system and expect direction from the Ministry of Education. Even when such direction is provided, it is still filtered through the Communist view since even though party officials have been disbanded, they usually remain in the existing power structure as educators, inspectors, or school directors. "We are not yet out of the woods . . . [and] I do not think that our victory is yet complete" (Dneprov as cited in Rust, 1992, p. 377).

Despite the impediments to educational reform in Russia, educators, regardless of nationality, face common problems in addition to those that are unique to their culture. Given the fact that both Russia and the United States are in the midst of restructuring their educational systems, more dialogue among educators from both countries needs to occur. Both societies could benefit from a critical examination of the factors which tend to impede reform. Likewise, what teacher has not "wondered about the ways to raise students' performance or how best to motivate the learning process or what skills might be the most appropriate in achieving instructional goals?" (Prisyazhnaya, Tomin & Jinks, 1994, p. 277). As a result of the exchange with Russian educators, it is believed that cultural uniqueness is not an obstacle in sharing theoretical and pedagogical experiences. Moreover, it is very informative to examine one's problems from differing points of view. Russian and North American educators are more alike than different—both want what is best for their students.

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CASE STUDIES OF TEACHER CHANGE FROM CONVENTIONAL TO HOLISTIC LITERACY INSTRUCTION

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Abstract

The purpose of this study was to understand the factors that promote a change in literacy instruction. Three teachers who had moved from traditional basal methodology to holistic strategies were asked to reflect on the process and identify what events, persons, and books exerted an impact upon their classroom practices for literacy instruction.

In an attempt to understand the influence with regard to degree of holistic teaching, the researcher interviewed and observed one teacher who was more holistic, one who was more traditional, and one who was in the middle of this theoretical continuum.

During the interviews, the teachers were asked to reflect upon their perceptions during the period of their change from basal strategies to literature based instruction to answer the following questions: How do teachers describe their literacy instruction? How do teachers describe changes in their approach to literacy instruction? What factors do they think influenced the changes? What is the nature of these influential factors?

Effective staff development is an ongoing challenge, because while some teachers seem eager to experiment, explore, revise, and refine; others cling to traditional methodologies because they believe that parents and administrators are satisfied and students are learning. A primary motivator for instructional innovation seems to be a teacher's desire to become a better teacher (Fullan, 1982; McLaughlin & Marsh, 1978). Minor adjustments, however, are more easily implemented than major methodological revisions (Doyle & Ponder,1977; Duffy & Roehler, 1986; Guskey, 1986; Little, 1981; Mann, 1978). Change is more easily accomplished when the teacher sees an immediate improvement in the students' learning, because teachers judge a strategy's effectiveness and their own competence according to the standard of students' learning (Lortie, 1975). Finally, colleagues' reactions to new strategies (Bossert, Dwyer, Rowan, & Lee, 1982; Fullan & Pomfret, 1977; McLaughlin & Marsh, 1978; Pace, 1991; 1992; Powell, 1988; Scharer, 1992; Walberg & Genova, 1982), organizational factors (Cooper, 1979; Doyle,1986), and the administrator's leadership style (Bentzen,1974; Fullan & Pomfret, 1977; Leithwood & Montgomery, 1982; McGeown, 1979-80; McLaughlin & Marsh, 1978; Rosenholtz, Bassle, Hoover-Demsey, 1985; Smylie,1988) exerts a significant influence on a teacher's ability to try new things in the classroom.

Individuals may respond to these influencing factors in different ways. For this reason, any exploration into the process of making change in classrooms requires structured interviews with individual teachers. Only through inviting teachers to reflect upon their individual "journeys" can the researcher hope to understand the influencing factors which have molded the teachers' philosophical beliefs toward education.

The purpose of this study was to understand the factors that promote a change in literacy instruction. This study invited teachers to reflect on their teaching practices and discuss the influencing factors that produced a significant impact on their classroom strategies for instruction.

The research questions were:

1. How do teachers describe literacy instruction in their classroom?
2. How do teachers describe changes in their approach to literacy instruction?
3. What factors do they think influence the changes?
4. What is the nature of these influential factors?

Methodology

This study was designed to provide an in-depth look at the perceptions of the teachers involved with the change process in their literacy instruction. During interviews the educators were invited to reflect on their journeys toward holistic instruction. Through their rich descriptions of the change process, they detailed the factors influencing their own personal educational reforms.

The study was conducted in two phases. Phase I involved identification of the participants and the factors they identified as being influential in their professional development. Phase II of this study was designed to examine the influential factors identified by the informants.

Phase I

Three elementary teachers (identified by pseudonyms) in the same school who had made methodological changes in their literacy instruction were identified by their building principal according to their classroom practices. Sally utilized more holistic strategies with her first grade students, Rose used a more traditional skills approach with her students, and Jane blended the approaches into a literacy program that could be described as "middle of the road" according to a traditional/holistic continuum.

Sally

Sally had taught first grade in this district for three years. Prior to her first-grade teaching assignment, she had been a third-grade teacher for five years and a kindergarten teacher for one year. Before coming to public schools, she had spent six years in a private Christian school teaching "anything from kindergarten to ninth grade home ec." Her teacher preparation came from a small liberal arts college, to which she returned for a summer program to obtain kindergarten certification.

Sally recalled the change from private to public school as traumatic. Her private school colleagues made dire predictions that her new colleagues would "eat you alive; steal all your ideas; take them for their own." Her fears subsided as she found "all these people were very religious, helpful, and kind." Teaching conditions differed and she had larger class sizes, but she also had more resources and support staff available to assist her.

Soon after Sally's change to public school came the birth of her son. Her experience as a mother and a teacher of young children had a profound impact on her teaching. Eventually her son began attending school in the same building where she was teaching, and Sally judged her classroom activities according to what Jay was doing in his primary classes. Jay's comprehension and interest became the standard by which Sally judged her teaching: "Am I addressing this as a first grader would? Am I talking to them like I do my own child?"

In the public school system, Sally discovered the benefit of professional days. She attended her first workshop in the late 1980s and heard for the first time about the "whole language" method of literacy instruction. This introduction began a self-discovery project of professional reading that revitalized literacy instruction in her classroom and precipitated instructional changes among the primary team of teachers in her district.

Sally was identified by her principal as being the most holistic in her approach to literacy instruction. The researcher's observation validated this judgement.

Jane

Jane began her preparation for teaching at a regional campus of a large state university as a part-time student. Since her two children were beginning school, Jane had the opportunity to pursue a career. The teacher shortage of the late 1960s and early 1970s enabled Jane to begin substituting in this district prior to completing her degree. "So there I was—going to school, teaching. I started teaching, I think it was 1970-1971 and I have not left that room for 25 years."

Jane's quarter century of expertise with primary children made her a natural mentor for Sally when Sally moved into the first grade classroom bringing varied experience of teaching older children. During this year of mentoring a "new" colleague, Jane was introduced to ideas about literacy instruction through authentic literature and invented spelling because of the curriculum in Sally's classroom.

Jane enrolled in a graduate sequence of classes that could yield a validation of a teaching certificate in reading specialization. The four-course reading sequence was taught by a proponent of holistic instruction at the regional campus during two years. It culminated with a practicum, during which Jane diagnosed and remediated a student who exhibited difficulties with reading. This experience gave Jane activities to try in her classroom and share with Sally. Jane's status as the veteran first grade teacher and apparent interest in holistic instruction gave credibility to the holistic movement.

Jane was identified by her principal as being "in the middle" of the continuum of conventional literacy instruction with basal reading materials and holistic instruction with authentic literature. The researcher's observation validated this judgment.

Rose

Rose has taught in this district for thirteen years. She began her career in kindergarten before taking a maternity leave; she taught seventh grade science for the second year of her career, but always hoped that a primary teacher's retirement would allow her to move back to the early childhood education for which she had trained. When a retirement occurred, Rose moved into the primary position she currently holds.

Rose's teacher preparation was taken at a state university. All her methods courses were taught in a seminar atmosphere. Her field experiences involved assisting classroom teachers, observing lessons, and teaching units at various grade levels within various content areas.

Rose's career in the primary grades was interrupted twice by maternity leaves when her two young children were born. Of these times, Rose said that she ". . . was a little bit behind in that way [holistic instruction] because they had already progressed a little bit before I came back . . . so I felt that I just sort of needed to get a grip on everything as a whole. I could only do as much as I knew I was capable of."

Rose's reservations about "throwing out the basal" to adopt holistic instruction led to a compromise among the first grade teachers to adopt a literature-based series in the most recent adoption of literacy materials. Rose was identified by her principal as being the most traditional of these teachers in her approach to literacy instruction. The researcher's observation validated this judgement.

Phase II

Data Collection. Information was gathered through a structured interview designed to promote teacher reflection. The interview, which took approximately one hour per person was audio-recorded and transcribed verbatim. Demographic information was obtained before teachers were asked to reflect on their teaching practices and the reasons they had adopted certain methodologies. The interview questions were tested in a neighboring district to refine them and the interview technique prior to the beginning of the study.

Classroom observations continued as the researcher attempted to understand the nature of literacy instruction in the teachers' classrooms. The researcher noted the activities that were planned, the activity flow, and the integrated nature of the language components (reading, writing, speaking, listening). The researcher also observed the instructional process and noted the student products. Copious field notes were transcribed into an observation log. The researcher observed at least 10 hours of instruction in each participant's classroom.

Several types of documents were reviewed. The district/building philosophy provided insight into the educational culture at the elementary school. Daily lesson plans provided insight into the educational culture of each classroom. Children's written products were gathered to provide insight into the nature of instruction. All sources helped enhance the researcher's perspective as she attempted to understand the nature of literacy instruction in these teachers' classrooms.

Data Analysis. As the instrument of data collection, all decisions regarding the case study were made through the researcher's perception of the process. Observation schedules, interview questions, follow-up probes, and documents reviewed were therefore subject to researcher bias. To minimize this bias and maximize validity and reliability, a case study plan of research was proposed to utilize specific methods of qualitative analysis (Patton, 1980).

Interviews were audio-recorded to ensure accuracy and preserve the inflective emphasis conveyed through voice tone. Systematic transcriptions were completed immediately after each interview to provide a forum for the researcher's reaction to what took place. Interview transcriptions were numerically coded with *Ethnograph* (Seidel, Kjolseth, & Seymour, 1988) so that interview data could be organized according to information conveyed.

Content analysis of all data identified general topics (Guba, 1978). Common factors became apparent across the data sources and influential factors that appeared in several interviews acquired greater importance in this study as different teachers discussed their importance. In this manner inductive data analysis "uncover[ed] embedded information and [made] it explicit" (Lincoln & Guba, 1985, p. 202).

Sorting the data repeatedly according to different topics enabled the researcher to triangulate or view the information through different lenses (Merriam, 1988). Finally, colleagues skilled in qualitative research were invited to review and comment on the findings throughout the project. The researcher selected 20% of the interview data making certain that each category of influence was represented by interview excerpts. In each test, the major categories of influence were briefly defined, and reviewers were asked to read the interview excerpts to determine which influencing factor was being discussed. Of the 36 excerpts presented, the first reviewer correctly matched the excerpt with the influencing factor 34 out of 36 times for a interrater reliability score of 94%. The second reviewer matched interview excerpts with the influencing factors 31 out of 36 trials for a interrater reliability rating of 85%. These results suggest a high degree of internal validity. In this manner, the researcher attempted to ground the findings in reality (Guba & Lincoln, 1981).

Results

The following cross case analysis summarizes the individual cases and synthesizes findings across cases. To facilitate the cross case analysis, Table 1 shows the strategies each teacher used for literacy instruction.

Table 1.

Strategy used	Sally	Jane	Rose
Reading			
Large group unison reading	x	x	x
Small group guided reading	x	x	x
Buddy reading paired reading	x	x	x
Read along	x	x	
Sustained Silent Reading	x		
Skillsheets		x	x
Stations	x	x	x
Writing			
Sustained Silent Writing	x		
Writer's journal	x	x	x
Spiral notebook	x	x	x
Book production	x	x	

Research Question #1: How do teachers describe their literacy lessons?

All of the teachers involved with this study built their literacy lessons around large group unison reading, small group guided reading, paired reading, writer's journal, notebooks, and learning stations. These activities were the core components of every lesson.

The principal's designationsof each teacher's position on the traditional holistic continuum was verified through observation. In addition to the core or regular/everyday activities used by each of the teachers, Sally utilized two additional instructional strategies: sustained silent reading and writing and response logs. In addition, she invited parent volunteers so that she could maintain a regular schedule of individual book publishing. Jane, on the other hand, included class book publication in her repertoire only occasionally. The third case participant, Rose, indicated that book production was important, but admitted that she did not publish student's work on a regular basis. Both Sally and Jane indicated a willingness to move away from the use of the literature-based reading series to teaching entirely through thematic units. Rose, however, was still comfortable using a series to organize her skill instruction, since she feared the omission of some important skills.

Research Question #2: How do teachers describe changes to their approach to literacy instruction?

All three teachers expressed some form of dissatisfaction with the traditional methods of literacy instruction. Sally described boredom with round robin reading. She described the low group laboriously reading materials that the high group had covered quickly and believed there was nothing exciting in the basal reading materials that was exciting for the children. Sally also admitted that the children's boredom with the basal reader affected her level of enthusiasm as well.

Jane described dissatisfaction with her previous role as labeler. The early years of her instruction were devoted to the issue of assignment of children to reading groups. She spent much of her time deciding which children were "bluebirds" and which were "redbirds." Additional time was also spent preparing separate lessons for different stories of the basal.

Rose expressed feelings of always being pressured to complete a multitude of workbooks. The same skills were taught in the phonics workbook and the spelling workbook. She felt this redundancy wasn't logical when funding for school supplies was always an issue.

Two of the teachers described gradual change toward holistic instruction. Jane described the addition of big books to her literacy instruction as her first innovation. The following year she added journal writing. After each addition she monitored the classroom response. A positive reaction encouraged her to continue a strategy. Rose initially attempted to use both holistic strategies and basal materials. For a few years Rose did traditional basal instruction in the morning and holistic activities in the afternoon. Gradually she used the basal less and increased the holistic activities.

Although Sally also described her adoption of holistic strategies as being "slow," she tried new strategies over a period of weeks instead of years. The children's reaction convinced Sally to continue. Sally was the greatest risk-taker of the three participants and was willing to change methodologies more quickly. As she read the professional literature available on whole language, she adopted the use of literature for instruction and writing for expression.

Sally and Jane supported each other's exploration by discussing articles they had read and strategies they had tried. Rose was the last to change methodologies and doubted that the children had enough materials to practice reading at home.

Sally and Jane were confident in their ability to cover all skills without using the recently adopted literature-based series and were using less and less instructional material from the series. During the follow-up interviews both teachers indicated that they planned to spend their vacation discussing additional units for literacy instruction. They both reported that implementing the literature-based series with all of its components was too time consuming and lessened the opportunity for extension activities. Rose, on the other hand, continued to be dependent upon the organization imposed by the teacher's manual, fearing that she might omit some important skills.

All of the teachers said that their changes in literacy instruction led to more positive opportunities for greater excitement toward learning. They also noted more positive student attitudes because learning was more fun at school. This became the reason for the continued use of holistic strategies.

Research Question #3: What factors do they think influenced the change?

Table 2 shows which factors were influential for each teacher. Each teacher reported the importance of a colleague experimenting with holistic strategies. Sally's willingness to try an activity, display the product, and discuss issues related to implementation were very important to the other first grade teachers. Informal hallway discussions led to lunch-room sharing. Common lunch periods facilitated the sharing of ideas. As the teachers discussed an up-coming story, for example, they would inform their colleagues what activities they planned for the next week. Everyone participated and heard suggestions for story extensions. Eventually, as more people began to share activities and materials, Sally began making her lesson plans available to her colleagues. The other teachers would teach that story, and pick activities from Sally's suggestions the following week. Sally was always available for the, "What do I do next?" or the insecure, "Am I doing this right?" questions.

Each teacher also reported an outside influence as crucial to their adoption of holistic strategies. For Sally and Rose the influence was exerted by a one-day workshop; however in Sally's case this day sparked a personal quest to learn more through professional reading. In Rose's case the one-day session provided little motivation beyond a few suggestions of techniques that could be used. Jane's outside influence was a series of graduate classes that

Table 2.

influential factors	definition	Sally	Jane	Rose
workshop	one day presentation	x		x
professional reading	books and journals	x	x	
colleague	first grade teacher	x	x	x
children	her children	x		x
	her students		x	
administration	elementary principal	x	x	x
graduate class	reading validation		x	
videos	strategy demonstration		x	
books & materials available	big books		x	

spanned two years. Collectively, the classes allowed her to establish a philosophical base for holistic instruction through reading professional literature and viewing training tapes on specific strategies.

Each teacher also credited the principals at the elementary school for being supportive through their change processes. From financial support to purchase necessary books and materials for the classroom to a willingness to invest in their professional growth through workshop and conference attendance, the principals came up with the money necessary to allow instructional change to take place.

The administration also gave them time to discuss and plan through proximity in room assignments and common lunch and planning times. Opportunities for teachers to talk to other teachers and to administrators has been crucial in this change process. Administrators have attempted to provide a friendly sounding-board so the teachers could talk through their successes and failures.

In addition, Sally and Rose reported that their own children were a powerful influence upon their classroom practices. As they observed the ease with which their children grew to love books and to read, they began to realize that every child could benefit from such experiences at school even if he or she didn't have such an environment at home. Finally, it was extremely important to Rose that someone else took the time to obtain materials, store them, and make them available to all primary teachers. The convenience of going next door for materials guaranteed that those materials were used.

Research Question #4: What is the nature of the influencing factors?

All teachers reported that alternative methods of literacy instruction were discussed in workshop presentations or graduate classes. Teachers appeared to value the scaffold provided by concrete descriptions and demonstrations, whether in a class or workshop or in professional reading. These concrete ideas frequently gave participants their own ideas to implement in their classrooms.

Once the seed had been planted the teachers began to learn about children's literature. Eventually, they tried new strategies and began discussion groups to evaluate the students' reaction to the new strategies. Colleague response played an important role in the continued use of a new strategy.

All the teachers recognized the importance of colleagues in the change process. Colleagues were informed, encouraged others to use the holistic strategies, actively sought new strategies, patiently answered questions, and gave continuous "you can" messages.

As the teachers implemented new strategies, they observed the children's reaction to the activity. If the children showed a positive response, the activity would be recommended to other teachers and repeated. If their reaction was less than positive, the discussion group would offer suggestions for modification. Thus each teacher consistently used the children's reaction to innovations to determine future plans.

All teachers credited their administration as being caring and supportive. Each principal summarized the administrative role as being a listener—one who recognizes that change comes from within the teachers. All administrators had open-door policies and believed in the financial support necessary to buy materials and send teachers to workshops and visitations outside the district.

Conclusions

Some findings from this study are supported by literature. Others were "surprises," as they are not mentioned in the literature on change research.

Findings Supported by Literature

The motivation for change in this study support Fullan (1982) and McLaughlin and Marsh's (1978) assertion that teachers implement changes in teaching strategies to become better teachers. Each of the three teachers reported dissatisfaction with her practice of literacy instruction. Sally wanted to bring more excitement and fun into the classroom activities. Jane felt that her role was one of a labeler who merely decided which children belonged to which reading group, and Rose felt pressure to fill out countless workbook pages emphasizing redundant skills.

Sally was so bored with traditional lessons that she sought another way to teach reading. She happened to attend a workshop emphasizing the use of literature in the classroom. Once aware that there was another method to teach reading, she began to read professional literature to learn more about holistic instruction. Jane, after observing some of the things that Sally tried, enrolled in a graduate class to learn more about how children learn to read. Rose gained confidence in holistic instruction after her colleagues encouraged her to try the activities as well. Each teacher was willing to adopt a new methodology to do a better job with literacy instruction (Fullan, 1982; McLaughlin and Marsh, 1978).

Each teacher reported that she continued using new methods because of student reactions. The judgment about a strategy working or not working appears to support Lortie's (1975) finding that teachers will continue change if students are benefiting form the new strategies and appear to be learning more easily. These three teachers observed that students were reading more books on their own and were more excited about reading-related activities.

Colleague reaction (Pace, 1992) also appeared to be a crucial factor in the change process undergone by these three teachers. Sally had to tough-it-out through initial skepticism expressed by her colleagues. She continued to use the strategies because she saw merit in the method and judged the student response to be positive. One may only speculate how long she could have ignored the criticism if she had not transferred to first grade where the criticism changed to interest.

Sally set the stage for Jane and Rose, who joined the holistic movement already in progress. They reported that colleague support was vitally important to them. The camaraderie that evolved through colleague sharing and encouragement supports the research done by Bossert et al. (1982), Fullan & Pomfret (1977), McLaughlin and Marsh (1978), Pace (1991), Powell (1988), Scharer (1992), and Walberg and Genova (1982).

Only one teacher made statements about the ability of the class level having an effect upon methodology. Sally's observation that last year's class was "lower functioning" gives validation to research done by Cooper (1979) and Doyle (1986). She reported that the previous class had not been able to think up topics for their notebook writing and required more teaching strategies to generate those ideas.

The administrative influence in this district was extremely important to the teachers involved in this study. Each participant emphasized the support mechanisms initiated by the elementary principals through the process of change. Their reflections support research by Bentzen (1974), Cohen (1995), Fullan and Pomfret (1977), Leithwood and Montgomery (1982), McGeown (1979-80), and Smylie (1988).

The environment in this elementary school appeared to be supportive of new first grade methodologies. Based on Powell's (1988) descriptors, the first grade staff appeared to be innovators and susceptibles. One might categorize Sally as an "innovator" since she described herself as being easily changed because she became bored if things stayed the same. Jane and Rose appear to be "susceptibles" as they described their dissatisfaction with traditional methodologies.

Depending upon their length of time practicing holistic strategies and their understanding of holistic philosophical beliefs, the three teachers were differentially placed along the traditional to holistic continuum described by Pace (1991). These teachers' understanding of literacy instruction through holistic strategies may mature over time, given continued support and encouragement (Scharer & Detwiler, 1992).

The recollections of the teachers give support to the importance of staff development in convincing teachers that changing strategies will make them better teachers (Fullan, 1982) or benefit the students (McLaughlin & Marsh, 1978). Each teacher involved in this study recalled a specific presenter who informed her of different methodologies and provided procedural instructional suggestions.

In all cases, the teachers reported their change to be a process, not an event (Hall, Wallace, & Dossett, 1973; Hatch, 1992). In this study teachers reported making a series of small changes rather than one overwhelming adoption of new methods. However, no previous research reports the cautious, gradual adoption described by the teachers in this study. They described adding one new activity, monitoring the response shown by the students, and then attempting another activity. This gradual change appears to be more acceptable to veteran teachers than a radical "out with the old, in with the new" transition. Jane, the most veteran teacher of this study, summarized this phenomena. "First thing . . . I had to get rid of the reading groups. And then one year I started journal writing. I didn't really throw everything out and start all new. I function better knowing what's happening in this area."

Surprise Findings

Little documentation in the literature records boredom as a motivating influence for change. Yet Sally was emphatic about her dissatisfaction with traditional basal instruction. Her introduction to a less boring way to teach children to read resulted in a quick change for Sally and her colleagues.

Jane discussed the importance of her colleagues' encouragement. When added to the influence exerted by her graduate class, the compounded influences suggest a scaffold of support surrounding her as she added new strategies to her literacy instruction. Visual images of teachers practicing holistic strategies, presented in the graduate class, added another dimension to the support scaffold. Gradually, Jane emerged from the scaffold confident in her ability to orchestrate activities that teach children to love books.

Positions on the traditional/holistic continuum appear significant when one considers the personal involvement of each teacher. Sally made a commitment to learning more about holistic instruction through professional reading. Jane was involved in a graduate program for two years. Both demonstrated a solid understanding of the philosophical roots of holistic instruction and expressed confidence in their ability to incorporate skill instruction through authentic literature. Rose, on the other hand, attended single-day workshop presentations that did not provide much opportunity to explore the philosophical belief systems that underlie holistic instruction. She is still unwilling to organize literacy instruction without the framework of the teacher's manual.

In two of the cases, teacher mothers observed their own children's reaction to read-aloud stories and discovered that they were learning to read by following along. In each family these mothers watched their sons grow into avid readers who love books. Seeing the enthusiasm and excitement demonstrated by their children, these teacher-moms recognized the opportunity to bring similar enthusiasm and excitement into the classroom. There is no documentation in the literature for a teacher's own children's reaction to literature being an influence on classroom practices.

Summary

Each teacher used similar strategies as the core components of literacy instruction. Other strategies were added that reflected the teacher's position on the holistic/traditional continuum.

Each teacher expressed dissatisfaction with the manner in which she had conducted literacy instruction prior to making instructional changes. Each also described a gradual process of adding holistic strategies. Student response to a strategy determined whether it was repeated or discarded.

The instructional changes described by each teacher were dependent upon support outside the school. Workshop presentations, graduate classes, and professional literature informed these teachers of alternate methods of literacy instruction. Interested colleagues and tolerant administrators provided support for the exploration of these methodologies inside the school. Together their influences formed a scaffold surrounding teachers involved with changing literacy instruction.

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PRESERVICE TEACHERS'S PERCEPTIONS OF PORTFOLIO ASSESSMENT IN READING/LANGUAGE ARTS COURSEWORK

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Abstract

The purpose of this study was to determine the impact of portfolio assessment on preservice teachers enrolled in undergraduate literacy coursework. As alternative assessment becomes more popular in the public school classroom, it is vital that preservice teachers have knowledge of and experience with new approaches to assessment. Using both quantitative and qualitative data sources, this investigation looked at 54 preservice teachers' perceptions of portfolio assessment in general, the value of portfolios in promoting personal learning of course content, the value of portfolios in providing future classroom applications, and preservice teachers' reactions to specific components of the portfolio process. Results indicated that preservice teachers' perceptions of the portfolio process changed dramatically from the beginning to the end of the semester. Students reported that autonomy and heightened awareness of their own learning were surprising advantages of the portfolio process. Students also indicated they felt ready and able to implement portfolios with their own students in their future classrooms.

Reading and language arts research, theory and instruction have undergone considerable changes in recent years (Goodman, 1989). Concurrent with these changes is an emerging interest in and need for assessment measures that offer alternatives to traditional forms of evaluation (Johnston, 1984, 1989; Linn, Baker & Dunbar, in press; Morrow & Smith, 1990). One alternative that has received considerable attention is portfolio assessment (Valeri-Gold, Olson, & Deming, 1992). Portfolio assessment places the student at the center of the evaluation process and focuses on students' learning processes, products, and performances (Colwell, 1994). Portfolio assessment is one way to "capture students' reasoning and communication competence in authentic settings" (Hiebert & Calfee, 1992, p.93).

As alternative assessment procedures such as portfolio assessment gain approval in many school systems, experiences with these assessment techniques become critical for preservice teachers. Unfortunately, most preservice teachers have had little or no personal experience with portfolio assessment (Ford, 1992). They must, therefore, be provided experiences with this approach in their coursework (Brazee & Kristo, 1986; Hollingsworth, 1989). Stahle and Mitchell (1993) have stressed the importance of paralleling classroom practices at the university and the public school level and urge teacher educators to incorporate portfolio experiences in their preservice programs. Only through such meaningful involvement in alternative assessment experiences will preservice teachers develop the understanding and ability necessary to implement innovative assessment and evaluation practices (Stowell, Rios, McDaniel, & Kelly, 1993).

The researchers have used portfolios as one form of assessment in their undergraduate reading and reading/language arts classes for four semesters. The purposes for implementing portfolio assessment were threefold: to provide students a hands-on experience with an alternative approach to assessment, to facilitate student learning, and to give students an opportunity to gain some control over their learning. The researchers wanted students to have as much ownership as possible over both the process and the product of the portfolio assignment; therefore, students were asked to determine the number and the nature of their portfolio entries and ultimately to grade their own portfolios.

The purpose of this study was to evaluate the impact of portfolio use in undergraduate language arts and reading courses by answering the following questions:

1. Do preservice teachers' perceptions of portfolio assessment change during the portfolio process and, if so, how?
2. Do preservice teachers feel that the use of portfolios is valuable in promoting their learning?
3. Do preservice teachers feel that experiencing portfolio assessment is useful in providing future practical classroom applications?
4. What are preservice teachers' reactions to specific components of the portfolio process, e.g. grading, teacher direction, and student ownership?

Method

Subjects

The subjects in this study were 54 students in undergraduate reading and reading/language arts courses at a large southwestern university. The courses are among the first education courses taken by preservice teachers. These courses are required for all students planning to teach in elementary schools and consequently the students registered in these courses include music, art and drama majors as well as students whose specializations are elementary education, reading, special education and early childhood education.

Procedure

Structure of the Class. The instructional delivery in these classes reflected a social constructivist approach to teaching and learning and involved a great deal of group work and active involvement. The classroom approach modeled what is currently considered best practice in reading/language arts instruction for elementary students (Anderson & Armbruster, 1990). Guiding principles included teacher modeling, active student involvement and collaboration of teacher and students to construct knowledge as a community of learners.

Nature of the Portfolio Assignment. In the beginning of the semester, students received a handout introducing them to the portfolio assignment (Appendix A). The handout outlined principles underlying portfolio assessment, the purposes of portfolio assessment, general considerations regarding contents of the portfolio, directions for preparing the portfolio, and general grading procedures.

The handout was reviewed with the students. The first two sections of the ASCD video, *Redesigning Assessment: Portfolios* (Kiernan, 1992), were viewed to help students begin to develop a concept of a portfolio. The video presented the varied formats for a portfolio, how a portfolio is assembled, the nature of the contents, and the role of the portfolio in the assessment process. Following the video there was a class discussion and the remainder of the handout was reviewed.

The procedures for developing the portfolio were then outlined. Students were encouraged to save everything they did in class in case they decided to use one of the pieces in their portfolio. They also were encouraged to begin developing their portfolio immediately so that their questions and concerns could be discussed in class on a regular basis. The students individually developed their own goals for their portfolios. Because this is one of the first education courses for many of the students and the first reading course for all of the students, they were given two to three global areas in which they might choose to set goals for personal growth: growth as a reader, growth as a writer, and growth as a teacher of reading and/or writing. Students were asked to think of some aspects of language arts and/or teaching they had seen, heard about or read about that they would like to learn more about or would like to learn to do. Students worked independently and with peers to develop specific goals. Some of the goals students chose included developing knowledge of a variety of children's literature, improving their ability to read aloud and learning about classroom techniques for organizing and implementing a classroom literacy program.

Contents of the portfolio were chosen by students based on their personal learning goals. None of the portfolio contents were mandated by the instructors. This allowed for student ownership and decision-making as to what types of evidence would reflect growth and progress toward their personal goals. In small groups, and then as a class, students and instructors brainstormed possible entries that could demonstrate growth. Students were directed to include a variety of forms of evidence and at least two pieces which were not a part of any class assignments. Because students were constantly pressuring to indicate how many entries they should include in their portfolios, the instructors arbitrarily established the guidelines at no fewer than 5 and no more than 20 entries.

Although the students tended to see the entries they selected as the most important part of the portfolio, it was stressed that the most important aspects of the portfolio were the goal-setting and the written reflection which accompanied each entry. A reflection attached to each portfolio entry identified and provided a context for the piece (gave any pertinent information about it, e.g., any necessary description, how it was developed), the rationale for including it in the portfolio, and the personal meaning it had for the learner. As a final step, students wrote a letter describing their experience with and reaction to the portfolio process.

A key feature of the portfolio assignment was conferencing. In order to provide students with feedback throughout the process and to give them experience with conferencing, students conferenced with a peer twice during the 15-week semester. The first conference was at the end of four weeks and the second at the end of 12 weeks. For the first conference they were required to have their goal(s) listed and at least one entry and reflection in their portfolio. For the second conference they were required to have at least three entries completed. Before the first peer conference the class discussed how to conference with a student and watched the portion of the ASCD video (Kiernan, 1992) that focused on conferencing. In addition, students were provided a handout listing guidelines for an effective conference and some possible questions and procedures for helping students to reflect on the pieces in their portfolios. During the last week of the semester instructors conferenced with each student for approximately 20 minutes. At that time the students gave overviews of their portfolios, selected several pieces to share, and then reviewed the portfolio evaluation sheet. This was the students' opportunity to justify the grades that they had self-assigned. Finally, the students shared their written reflections on the portfolio process.

The criteria for grading the portfolios were negotiated with the students as a group. Following the first peer portfolio conference the class reviewed

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the guidelines outlined in the handout and identified the areas that would be considered in the final evaluation. After the last peer conference, students worked in small groups to establish specific criteria for scoring at three levels of performance: exemplary (which translated into a grade of A), excellent (B), or average (C). The final categories in which the students evaluated themselves were: contents (types of entries, relevance of entries to goals), rationales (cover sheets for each entry that gave a rationale for the entry's inclusion), reflection on the portfolio development process, and overall organization. The resulting rubric was distributed to all students to grade their final portfolios (See Appendix C). The portfolio was worth 30% of each student's grade.

Data Collection

The data sources for this research were both quantitative and qualitative. Fifty-four participants completed a seven-item questionnaire at the end of the semester (Appendix B). The first two items in the questionnaire referred to students' pre-course and post-course perceptions of the portfolio assignment. Questions 3 and 4 addressed the degree to which students viewed the portfolio assignment as contributing to their learning and providing information and experiences for future classroom application. The last three questions asked students to comment on specific aspects of their portfolios and indicate what they liked about the process and what they would change. Responses were on a seven point Likert scale with a space for open response. Data for these 54 students also included a written reflection in which they expressed their reactions to the portfolio development process.

Data Analysis

Likert items from the survey were analyzed to calculate descriptive statistics for each scale item. Open responses and reflections were analyzed using the constant comparative method (Glaser & Strauss, 1967) to identify themes and trends emerging from the qualitative data.

Results

Results of the data analysis are reported relative to the questions that were the foci for this investigation.

1. Do preservice teachers' perceptions of portfolio assessment change during the portfolio process and, if so, how?

According to the questionnaire completed at the end of the course (see Appendix B), students' perceptions of the portfolio process changed dramatically during the semester. While their initial reaction to portfolio assessment in general (question #1) was more negative ($x = 3.2$; $sd = 1.6$), upon completion of the portfolio (question #2) the reaction was highly positive ($x = 5.7$;

sd=1.4). This change was statistically significant at the .01 level. Reasons for this change were reflected in the students' comments in the free responses and in their letters in which they reflected on the portfolio process. For example, students said, "I wasn't exactly sure what you wanted at first, but you made us feel comfortable because you went over it *a lot!*" "At the half-way point I looked at what I did and it encouraged me to continue—do even better." "As I added to and reflected on the pieces in my portfolio, I realized how much I had learned;" and "Once I really sat down and thought about it, it all came to me pretty easy."

Students' comments upon completion of their portfolios were indicative of the value which they attached to the experience. For example, one student said,

> Initially I was confused on how to go about what was required out of this assignment. I did not know what to put in my portfolio. I felt, after watching the video, that portfolios would work best for children, but soon found out that that was not necessarily true. I did my best to collect those things which I felt contributed to my learning as a reading teacher. The end product was most valuable.

Others commented that "It was a great way for me to assess how I have come along from the beginning of the class;" and "It was a great experience. I learned a lot. Very valuable."

Students' initial concerns about the process ranged from no discomfort for those students who had previously experienced portfolio assessment to feelings of "anxiety, confusion, apprehension and nausea." These concerns were based on what they perceived as a lack of structure and clarity and "fear of the unknown." In addition many students initially saw the portfolios as "unproductive, time consuming, busy work." For example, students commented, "My initial reaction was negative. The assignment seemed vague and the standards of the portfolio were unclear. It was hard to come up with activities;" "I was very confused because I really didn't understand what the expectations were. I thought that it would be busy work;" and "I felt overwhelmed . . . I couldn't grasp the fact that I would know by the end of the semester enough to successfully create items that I can use for reference as a teacher. . . . It was scary."

2. *Do preservice teachers feel that the use of portfolios is valuable in promoting their learning?*

The students indicated that the portfolio process contributed substantially to their learning (x = 5.4; sd=1.6). In their comments (Appendix B, question #3) students hypothesized about why this learning occurred and what they had learned. Students attributed their learning to active involvement, reflection and choice. Several commented that, "It focused my attention on what I thought was important to me at the time;" "We could do any project we wanted to do; it was very personal and each of us could focus on what would help us the most;" and "The reflection reinforced the learning."

Another student said,

> It's really easy to read chapters in a text book and not internalize anything at all. It's easy to memorize activities that *might* be useful to students, and then forget it after the test. By doing the portfolio, it's a "hands-on" activity that you won't forget because you had to spend so much time doing it. (And you can use it later for the classroom).

Students reported that completing the portfolios helped them learn about the portfolio process. Students also learned topical information (e.g. importance of student involvement, emergent literacy, and assessment) and specific skills (e.g. self-evaluation, decision making, organization, analysis, synthesis, and reflection). Added benefits were increased self-awareness and improved attitudes (e.g. confidence and motivation).

The students also indicated that a particular strength gained from the portfolio experience was a heightened awareness of their own learning as entries were selected and reflections were prepared over the course of the semester. For example, "The portfolio made me aware of how much I have learned about teaching reading. I learned that learning is ongoing, one thing leads to another and makes you want to look further;" "I got a chance to see my growth in front of me and not on a final grade report;" "I learned another way to organize my work. . . . It did contribute to my learning by teaching me how to teach myself about reading."

3. Do preservice teachers feel that experiencing portfolio assessment is useful in providing future practical classroom applications?

The students indicated that involvement in the portfolio process was most useful in providing them with the background and experience to implement portfolio assessment in their future classrooms (x = 6; sd=1.3). They indicated (Appendix B, question #4) that the portfolio would be of value to both teachers and students and would help them to evaluate student progress and provide evidence to share with parents. In addition, they recognized the value the portfolio would have for students in promoting learning, self-esteem, self-assessment, creativity, and student ownership of learning. For example, one student said,

> I will definitely use this idea. It will be used by my students to see their progress in class and it will give *me* a good chance to interact with them one-on-one. I will also have a good record of the child's work to show to the parents! It can also be useful to the teacher in assessing how effective his teaching has been with the child.

Others mentioned, "I think a portfolio of writing samples would be beneficial in a language arts class . . . this would allow students to see their own progress or stagnation;" "I will use portfolio assessment so that I can gauge a student's progress;" and "I think portfolios are great to show progress." The value of student experiences with portfolios in application to their future classrooms was reflected in the similarity of their comments about the value to themselves as learners and the value to their future students.

4. *What are preservice teachers' reactions to specific components of the portfolio process (e.g. grading, teacher direction, student ownership)?*

Students varied in their preference for student (34%), teacher (3%) or student/teacher (57%) designated items for inclusion in the portfolio (Appendix B, question #5). Students who wanted both teacher and student input commented that selecting items was very difficult because they had little experience in making such decisions. Many students also indicated that they wanted more direction in the entries to be included in the portfolio. On the other hand, the aspect of portfolios students liked the best and found contributed most to their learning was choosing the entries that best reflected progress toward their goals.

The qualitative analysis revealed suggestions for changes in the portfolio process and a belief that student-centered decision-making and grading procedures placed students in charge of their learning. Students suggested that teachers should suggest 1-2 entries or a choice between two entries, to provide initial direction. Students who opted for total student selection indicated that allowing student choice gave students more control over their portfolios, forced students to decide what was important to them, and encouraged student independence. In some cases responses indicated a distinction was being made between the present portfolio process and what these future teachers would do with their own students.

When indicating what they liked best about the portfolio process (Appendix B, question #5) the students referred to peer conferencing, choice, reflection, and self-evaluation. Conferencing provided students with feedback, encouragement, and other ideas. Students indicated that although reflection and self-evaluation were difficult, they were important components of the process and contributed significantly to their learning.

Students also gave suggestions for change in the portfolio assignment. Three aspects that students mentioned were additional opportunities for teacher conferencing, an opportunity to see samples of portfolios, and clearer guidelines when portfolios were initially presented.

Conclusion

Extant literature in reading language arts suggests change is needed in elementary school assessment practices. The challenge for teacher educators is to employ assessment practices that are congruent with these changes and prepare future teachers to implement appropriate reading language arts assessment. By determining students' perceptions of the effectiveness and practicality of university classroom assessment practices, teacher educators can better design coursework to meet students' needs and prepare them to carry out appropriate assessment in their future classrooms.

Students' comments indicate that the researchers achieved their goals: to provide students hands-on experience with an approach to assessment that is being implemented in many public school classrooms; to facilitate student learning; and to give students an opportunity to gain some control over their learning. The use of portfolio assessment in these undergraduate reading language arts classrooms was an excellent learning experience for both instructors and students. Although many students were very concerned when the portfolio assignment was initially introduced, at the conclusion of the portfolio process most indicated their endorsement of the use of portfolios. Results show that by participating in the creation of a personal portfolio, students learned topical knowledge, organization, and evaluation thinking skills. By experiencing the portfolio process themselves, students realized the value it could have for both students and teachers. Perhaps most importantly, the students developed an increased knowledge of self as learner and as teacher.

Changes in Practice

Based on the results and conclusions of this study, the instructors learned many lessons and several changes have been made in the portfolio development process. These changes deal with communication, goal setting, entries, and evaluation.

For example, they have instituted weekly 20-30 minute "Portfolio Sessions" focused on specific issues such as setting goals, identifying possible entries, writing rationales, conferencing, and evaluating the portfolio. Since this change has been put into effect, students have generally expressed less anxiety throughout the portfolio process. In addition, the students and instructor now negotiate the evaluation rubric following the first portfolio conference rather than waiting until the end of the semester.

As the researchers have reflected on their progress over the past three years of portfolio use, it is clear that their experiences have affected their practices each semester. With their students' assistance they continue to refine the process. However, some things have remained constant. These include the desire to cultivate independent thinking in their students, to encourage personal ownership of learning, and to utilize authentic assessment tools which reflect genuine learning experiences.

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Appendix A: Portfolio Information Given to Students

There are a variety of types of portfolios: showcase, document, evaluative and process. Your portfolios will be a composite of these four types.

Principles:

1. Portfolios should reflect student ownership of learning.
2. Portfolios should present evidence of growth and learning.
3. Portfolios should be one of a variety of assessment tools.
4. Portfolios should contain process and product entries as evidence.

Purposes:

1. To improve instruction
2. To facilitate student learning
3. To provide evidence of student learning

Contents:

1. Contents should present evidence of growth as a reader and reading teacher
2. There should be a variety of forms of evidence
3. A variety of people can contribute to your portfolio (e.g. parents, children, students, teacher, supervisor, yourself)
4. The final portfolio should contain at least two pieces which are not part of a class activity or assignment
5. You could include:
   a. Documentation of attempts to integrate new learnings into teaching
   b. Documentation of weekly learning
   c. Reactions to class activities
   d. Self-selected activities

Procedures:

1. Save everything that you do in this course or you think you may be able to use in your portfolio.
2. Once you have given it some thought set learning goals for yourself.
3. Determine what documentation you will use as evidence of your growth and learning.
4. Begin to develop your portfolio. Your portfolio can take a variety of forms (e.g. binder, folder, file folder). Do *not* wait until the end of the semester to prepare your portfolio. *Begin as soon as possible.*
5. As you decide what to include in your portfolio:
   a. Make your selection and *date it*; the date reflects when during the semester you chose the piece.
   b. Create a cover sheet for the piece. The cover sheet should identify the piece, give the context of it to help the reader understand the nature of the entry, and a rationale for placing the piece in your portfolio.
   c. Organize the pieces in your portfolio so they are easy to locate and present a developing picture of your growth as a reader and reading teacher.
6. Your portfolio will be shared with a peer half-way through the first and second half of the semester. For the first conference you must have *at least one entry* in your portfolio. For your second conference you must have *at least three entries* in your portfolio. At the end of the semester you will share your portfolio with the instructor.
7. When you submit your portfolio at the end of the semester include the following items:
   a. A table of contents or users guide
   b. Your self-evaluation based on criteria developed in class
   c. Support for the points you have assigned yourself
   d. Your evaluation of the portfolio process
   e. No fewer than *5* entries and no more than *20* entries.

Appendix B: Portfolio Evaluation

This questionnaire is designed to obtain an evaluation of the use of portfolio assessment in a university reading methods class. Your response to this questionnaire is important to determine the effectiveness of portfolio assessment during this semester and to identify modifications to improve portfolio use for future classes. For each item circle the number of the response that best reflects your perceptions.

Section 1 4 6 **Gender** 1 F 2 M **Age** ______

Area of Specialization

1	Music Education	4	Early Childhood Education
2	Art Education	5	Reading
3	Elementary Education	6	Special Education

1. My initial reaction to portfolio assessment was:

   Negative **Positive**

   1 2 3 4 5 6 7

   Describe your initial reaction to portfolio assessment.

2. My current reaction to portfolio assessment is:

   Negative **Positive**

   1 2 3 4 5 6 7

   Describe your current reaction to portfolio assessment.

3. How valuable was portfolio assessment in contributing to your learning?

   Not at all Valuable **Very Valuable**

   1 2 3 4 5 6 7

   Explain **how** you learned from experiencing portfolio assessment and **why** it did or did not contribute to your learning.

4. How useful would portfolio assessment be for you as a teacher?

   Not at all Useful **Very Useful**

   1 2 3 4 5 6 7

   Explain **why** and **how** you might or might not use portfolio assessment in your classroom.

5. Which would you prefer? Circle the number of your preference.
   1. Portfolio assessment with instructor designated assignments
   2. Portfolio assessment with student selected assignments
   3. Portfolio assessment with student and instructor selected assignments
   4. Other ______________________________

   Explain your choice.

6. What did you like best about portfolio assessment?

7. What changes would you make to portfolio assessment to make it more effective?

Appendix C: Portfolio Grading Criteria

	Content (Includes goals & pieces) (10 pts)	Rationales (Cover Sheets) (15 pts)	Reflection on Portfolio Process (5 pts)	Overall Organization and Appearance (5 pts)
Average Performance	• at least 5 entries • at least 2 pieces not part of class activity • addresses all three goal areas	• one for each piece • brief explanation of what you are turning in	• surface summary • learner states whether s/he liked or disliked the process	• table of contents • neat • typed cover sheets • all pieces must be dated • contains a list of goals
Excellent Performance *This includes all criteria listed for average performance in addition to:*	• contents are clearly related to goals • should include a variety of forms of evidence • thoughtful and clearly stated goals • should show growth and progress	• clearly explains why piece included • states goal piece shows progress toward • explains what was learned • reflects on the four areas: content, rationales, reflections, and orgranization • explains how portfolio process affected learner in general	• states what was liked or disliked about the process • explains how process affected growth as a teacher/learner	
Exemplary Performance *This includes all criteria listed for above average performance in addition to:*	• included an original idea or idea/concept not addressed in class • shows personal time and effort in finding entries outside of class • includes documentation of attempts to integrate new • creative, original, and thoughtful choice of entries which show evidence of progress towards a selected goal	• explains why piece is evidence of progress • how you can continue to work toward your goal • rationale shows how learning occurred • personal ownership • good analysis of growth in the future as a teacher and/or learner	• explains why learner liked or disliked the portfolio process • extends portfolio process future use • specific examples supporting reasoning • suggests what would make the process better	• shows pride in work • reflects an organizational plan/pattern

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TERMINOLOGY: AN ISSUE IN LITERACY ASSESSMENT BEYOND THE ELEMENTARY SCHOOL

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Abstract

Terms such as authentic assessment, portfolio assessment, performance assessment, alternative assessment, standardized assessment, and informal assessment are commonplace in educational journal articles. Therefore, it is important to understand how these terms are defined. This study sought to determine how authors of post-elementary journal articles written within the last five years defined terms related to literacy assessment. The journals used in this investigation included Journal of Reading, English Journal, Educational Leadership, Phi Delta Kappan, Reading Research and Instruction, Journal of Reading Behavior *and* Teaching English in a Two-Year College. *The yearbooks for the College Reading Association, National Reading Conference and American Reading Forum also were included. Each journal was read for the purpose of extracting any article whose focus was assessment to determine how author(s) defined the assessment terms.*

> Think left and think right and think low and think high.
> Oh, the THINKS you can think up if you only try!
>
> Dr. Seuss, 1975

This quote aptly summarizes the current state of affairs in literacy assessment. An examination of the literature to determine what terms are being used to describe and define literacy assessment in post-elementary literacy journals reveals a lack of clarity, which creates dilemmas for educators. Herman (1992) summarized current beliefs about the types of assessment needed: "Good assessment is built on current theories of learning and cognition and grounded in views of what skills and capacities students will need for future success . . . To know something is not just to have received information but to have interpreted it and related it to other knowledge one already has" (p. 75).

However, Brandt (1992, p. 36) explains that designing appropriate assessments is not easy: "Teachers . . . know what they don't like about conventional testing . . but they don't know what this new vision looks like." One dilemma is that students who score poorly on norm-referenced tests are not necessarily going to perform better on the alternatives. In fact, there is reason to believe that the weakest students could look even worse (Maeroff, 1991). In addition, the imprecise use of terms (e.g. authentic assessment, portfolio assessment, performance assessment, alternative assessment, standardized assessment, and informal assessment) in educational journal articles may cause confusion among educators who might wish to try new forms of assessment.

It is important to understand how assessment-related terms are defined and what criteria are used to identify the different types of assessment. Brandt (1992, p. 36) states ". . . we need to provide teachers with models and criteria for what good . . . assessment looks like. That way, they can compare their own efforts with models and standards." Therefore, this study sought to determine how authors of post-elementary journal articles written within the last five years defined terms related to literacy assessment. The journals used in this investigation were: *Journal of Reading, English Journal, Educational Leadership, Phi Delta Kappan, Reading Research and Instruction, Journal of Reading Behavior*, and *Teaching English in a Two-Year College*. The yearbooks from the College Reading Association, National Reading Conference and American Reading Forum also were included. Each journal or yearbook was read for the purpose of extracting all assessment-related articles to determine how author(s) defined assessment terms. We then searched for relations between the terms.

Results

In the materials analyzed, thirteen different terms were used to define assessment. These terms, along with the author(s)' definitions, are provided in the Appendix.

An analysis of relationships between the terms revealed that "alternative assessment" and "informal assessment" are often used synonomously. Alternative assessment is any type of assessment other than standardized assessment, while informal assessment is considered to be the opposite of formal, standardized assessment. The characteristics of alternative or informal assessment include the production of responses, rather than the selection of responses; assessing the depth of knowledge, rather than the breadth of knowledge; and making informed judgments about students' performances, rather than mechanical scoring. Alternative or informal assessments may be accomplished by examining (1) the *process* of learning (learning logs, think-alouds, observation, self-assessment checklists, writing folders, literature logs, journals, etc.); (2) the *product* of learning (diaries, writing portfolios, art portfolios, exhibits, projects, etc.); or (3) the *performance* of learning (typing tests, dramatic performance, musical performance, oral debates, etc.). The purposes of alternative or informal assessment are to facilitate instruction, provide a meaningful picture of student growth, and to evaluate cognitive and affective development.

There are many different types of alternative or informal assessment. The most familiar types include criterion-referenced, competency-based, and curriculum-based assessments. Other less familiar types include Dynamic Assessment (Kletzian & Bednar, 1990), Action Beyond Analysis Assessment (Flood, Lapp & Nagel, 1993), Interactive Assessment (Brozo, 1990), and Holistic Assessment (Sorenson, 1993).

It would seem that portfolio assessment (both student portfolios and teacher portfolios) is also a type of alternative assessment. Portfolio assessment appears to emphasize the process, product and performance of learning. According to the authors of the articles, a unique feature of portfolio assessment, different from other types of alternative or informal assessment, is that it evaluates students' growth over time. Other features of portfolio assessment are less definitive. Authors differ in their views about various issues, such as what should be included in a portfolio; who should select the contents (student-selected, teacher-selected, school-selected or a combination thereof); what criteria should be used for judging merit (checklists, grids, etc.); who should decide the criteria (students, teachers, schools or a combination thereof); what constitutes self-reflection by students; and the role of conferences in portfolio assessment.

Performance assessment also appears to be a type of alternative or informal assessment. Rea and Thompson (1990) also defined performanced-based testing as transformative testing; therefore, it appears that transformative testing and performance assessment are synonomous, with performance assessment being the most widely-used term. According to the literature, there are two key features of performance assessment: (1) it requires students to demonstrate their competencies or knowledge by creating an answer or a product, and (2) it requires students to evaluate their own work. Wiggins (1992, p. 27) developed eight criteria for designing performance assessment, which outlined appropriate tasks, scoring criteria, necessary context, and so forth. In particular, performance tasks should be constructed with clearly identified standards for success so that generalizations about overall performance can be made.

Authentic assessment is not quite as easy to categorize. Rather than being a *type* of assessment, it appears that authentic assessment is a *characteristic* which may or may not be present in any of the types of the aforementioned alternative or informal assessments. While this notion is somewhat contrary to the way authentic assessment is currently viewed, it can be supported. Meyer (1992) seems to agree with the notion that authentic assessment is a characteristic of assessment. Meyer explains that authentic assessment refers to the context in which a response is performed, requiring the student to complete or demonstrate the desired behavior in a real-life context. Other authors (Myers, 1991; Wiggins, 1989) also conclude that authentic assessments integrate and assess reading and writing with realistic activities that replicate the challenges and standards of performance that typically face writers, businesspeople, scientists, community leaders, designers, or historians. If any of the alternative or informal assessments involve students in the actual challenges and standards needed for success in the academic disciplines or in the workplace then they could be considered authentic assessments.

Farr (1990) and Simmons and Resnick (1993) asserted that portfolios are appealing as authentic assessments of students' capabilities. Costa (1989) also provided examples of authentic assessments: teachers' observations, collections of evidence of student performance, long-term projects, logs and journals, student interviews, videotapes of student performance, and writing samples. It appears, then, that the key characteristic for identifying whether or not something is authentic is the *context* in which the activity is performed.

Some situational examples may help clarify the differences between authentic and inauthentic alternative/informal assessments. If a teacher decides to use portfolio assessment as an alternative/informal form of assessment, it may be considered authentic if it contains samples (writings, literature logs, response journals, etc.) of students' analyses of characters and their actions in a story, rather than workbook pages in which students demonstrate their knowledge of the characters and their actions. A students' knowledge of letter writing may be authentically assessed by the students writing letters to real people about real subject matter, rather than writing a specified type of letter to an imaginary person. Similarly, performanced-based assessment would be considered authentic if students were required to demonstrate their competencies or knowledge by creating an answer or a product, and evaluate their own work in relation to a realistic situation, rather than an inauthentic, contrived situation.

Discussion

Based on this review of the literature, it is clear that educators are not all "opened to the same page of the hymnal." Many of the authors did not clearly define the terms they used in their articles. Terms often were used as synonyms for each other, such as portfolio assessment and authentic assessment, portfolio assessment and performance-based assessment, authentic assessment and performance-based assessment. Clearly, these terms are not synonymous and we must be careful not to infer that they are.

Educators must understand how assessment-related terms are defined in order to decide which types of assessment they will use for particular purposes. Maeroff (1991, p. 280) believes "... the onus is on teachers to teach in ways that lead students to produce samples of appropriate work." If educators do not understand the different types of assessments, how can they design instructional activities to meet their assessment needs? Worse yet, how do educators know what their assessment needs are if they do not understand what types of assessment are available to them?

In summary, it seems clear that one type of assessment will not work for all purposes. Most of the authors agreed that good assessment requires collecting documentation using multiple methods. Endorsing the use of multiple methods of data collection for evaluating students' work, Farr and Tone (1994) tell a story about a village in which the students were taught to build houses. After the king went to an education meeting, he discovered that other kings were reporting test scores. He wanted to be able to do the same so he brought in consultants who would develop the tests. Soon, he was able to go to the conferences and report the test scores, but the students were no longer able to build houses. The moral of the story (Farr & Tone, 1994, p. xiii) is:

> There is a big difference between naming hammers and pounding nails in a wall. However, lest anyone believe that naming hammers is not important, just ask someone to get a particular type of hammer and see what happens if the person fetching it doesn't know the types of hammers. On the other hand, and more importantly, standing with a hammer in one's hand and knowing its name doesn't make one a builder or tell one how to use it.

At the end of the parable, Farr and Tone (1994, p. xiii) ask the question: "Could there be a place for both knowledge and application?" The answer to Farr and Tone's (1994) question, with respect to assessment, seems to be: "No, there is not yet a place for both knowledge and application of alternative assessments." We must clarify the confusion surrounding alternative assessments, specifically the terminology, to help educators apply these alternative assessment strategies successfully.

In memory of our friend and colleague, James R. Olson.

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Appendix A: Types of Assessments and Definitions

Name of Assessment	Author	Definition or Example Given
Action Beyond Analysis Assessment	Flood, Lapp & Nagel (1993)	• Measures the sociopolitical responses students have to literature, especially of a multicultural nature (student journal entries about multicultural readings, student formal response papers, student survey responses and teacher logs).
Alternative Assessment	Auerbach (1990)	• "... contextualized and relevant to adults' lives, qualitative and involving reflection on the learning process; supportive and collaborative process rather than product oriented, and context-specific, varying with the needs of the group and the program." (p. 61)
	Calfee & Perfumo (1993)	• Emphasize production of responses rather than selecting responses, depth of knowledge as opposed to breadth, and making informed judgments instead of mechanical scoring
	Hiebert, Hutchison & Raines (1991)	• Writing folders, literature logs, journals, etc.
	Maeroff (1991)	• Writing samples
	Van Horn & Brown (1993)	• criterion-referenced, competency-based, and curriculum-based assessments
	Worthen (1993)	• "... focus on students' processes (revealed through learning logs, think-aloud observation sessions, self-assessment checklists); products (e.g. diaries, writing portfolios, art portfolios or exhibits); or performances (e.g. typing tests, dramatic or musical performances, oral debates)" (p. 445).
Authentic Assessment	Myers (1991)	• "contextualized," problematic for the student in that it forces the student to determine what strategies are needed or what action is needed to make the text more meaningful" (p. 92).

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	Wiggins (1989)	• replicates the challenges and standards of performance that typically face writers, businesspeople, scientists, community leaders, designers, or historians.
Dynamic Assessment	Kletzian & Bednar (1990)	• designed to assess the degree of strategic knowledge that readers are able to bring to bear while constructing meaning from text. It also assesses affective variables such as attitude toward reading instruction. Specifically it assesses: readers' current reading level, level of declarative, procedural and conditional knowledge, and potential for change with appropriate instructional support.
Holistic Assessment	Sorenson (1993)	• (1) evaluation should be longitudinal since the whole language teacher is "concerned about the hypothesis-testing process and rule internalization." (2) evaluation should be contextual since "language skills must be evaluated in the contexts where they naturally occur." (3) evaluation should be collaborative to provide "authenticity to the observations and judgments of the individuals who are most intimately aware of, and who have the biggest stake in their accuracy: the teacher the parent, and the child" (p. 68-72).
Informal Assessment	Biggs (1990)	• can include: self-assessment, observation, teacher-designed instruments that detect cognitive and affective development. It includes projects and assignments collected by the student to represent his/her best efforts.
Informed Assessment	Wolf (1993)	• the "process that knowledgeable teachers engage in when they systematically observe and selectively document their students' performance through multiple methods, across diverse contexts, and over time as students participate in meaningful learning activities" (p. 519). Systematic observations and documentation are essential to this process.
Interactive Assessment	Brozo (1990)	• use an Informal Reading Inventory and follow these steps: (1) diagnostic interview, (2) determine passage placement through word lists, (3) prepare to read by building motivation and interest.

		activate prior knowledge, set purpose, preteach concepts, (4) read silently, (5) read orally while mediating word learning, showing the student strategies to help deal with the text and gathering self-reports from students on comprehension strategies, and (6) gather retellings, allow the student to refer back to the text as he/she retells the story and connect the new information with prior knowledge.
Performance Assessment	Feuer & Fulton (1993)	• ". . . a broad term. It covers many different types of testing methods that require students to demonstrate their competencies or knowledge by creating an answer or a product" (p. 478) and by evaluating their own work. Seven common forms of performance assessment are: constructed-response items, essays, writing, oral discourse, exhibitions, experiments, and portfolios.
	Johns (1992) and Viechnicki, Barbour & Shaklee (1993)	• portfolios are a means of performance-based assessment
	Farr (1991)	• portfolios, teacher/student literacy conferences, written think-alongs, free-writes, work samples, and student self-assessment are examples of performance-based assessment.
	Peers (1993)	• writing is a performance-based measure
	Rea & Thompson (1990)	• performanced-based testing is *transformative testing* • ". . . learning activities used for the purpose of testing" (p. 9). The testing procedure consists of carefully constructed teacher-made questions that go beyond the literal level. Questions assess application as well as interpretive abilities.

Portfolios	Abruscato (1993), Ballard (1992) Bell (1992), Calfee & Perfumo (1993), Christian (1993), Cooper & Brown (1992), Dewitz, Carr, Palm & Spencer (1992) Evans (1993), Feuer & Fulton (1993), Frazier, Palmer, Duchein & Armato (1993), MacGinitie (1993), Metzger & Bryant (1993), Palmer, LeMahieu & Fresh (1992), Stahle & Mitchell (1993)	• A collection of papers over time to be used to determine progress, instructional practices and/or final grades. The contents of the portfolios are determined by the student and/or the teacher.
	Biggs (1990)	• anything that reflects the student's strengths, growth, and goals. Artifacts may include: self-assessments, teacher observations, metacognitive interviews, samples of writing that reflect the students' success at constructing meaning, evidence that the student reads for enjoyment and information, samples of oral communication, attitude and interest surveys, retellings, summaries, journal entries, and samples of the student's best work.
	Simmons & Resnick (1993)	• "Portfolios will contain three kinds of work: work chosen by the district, school, teacher, and/or student; prescribed projects and other extended learning activities; and responses generated by . . . matrix examination tasks" (p. 12-13).
Portfolio Assessment	Flood, Lapp & Manken (1992), Harlin, Lipa & Phelps (1992), Moje, Brozo & Haas (1994), Paulson, Paulson & Meyer (1991), Van Horn & Brown (1993)	• a multidimensional profile/process system of student progress to be used as an instructional tool. Designed and collected by students, teachers, and parents, the purpose of portfolios is to gather information about students' efforts toward self-monitoring as well as students' growth and achievement in (1993) literacy endeavors. Must include student participation in selecting contents, the criteria for selection, the criteria for judging merit, and evidence of student self-reflection.
	Valencia, Pearson, Peters & Wixson (1989)	• "This portfolio system should incorporate multiple indicators of expertise (e.g. comprehension, uses of literacy, metacognitive strategies),

		multiple measures in various contexts (e.g. reading different genres, reading for different purposes), and ongoing measures of this evolving expertise (e.g. repeated measures over time)" (p. 59)
	Valeri-Gold, Olson & Deming (1991-1992)	• formative (vs. summative) assessment wherein the students become "active learners and questioning thinkers" (p. 298)
	Wolf (1989)	• a gathering of biographies of works, a range of works, and reflections
Teacher Portfolio Assessment	Ford (1993)	• a learning portfolio that provides evidence that teachers have enhanced their thinking, improved their (future) instructional practice, and examined their personal literacy habits
	Mosenthal, Daniels & Mekkelsen (1993)	• Student portfolios emphasize the process of teacher-student collaboration to document and reflect on work. Teacher portfolios were representative of knowledge and competence. Portfolio as work space (process and learning oriented) and display (product oriented).
	Wolf (1991)	• ". . . a container for storing and displaying evidence of a teacher's knowledge and skills . . . embodies an attitude that assessment is dynamic and that the richest portrayals of teacher (and student) performance are based on multiple sources of evidence collected over time in authentic settings." The portfolio is ". . . both selective and reflective—carefully chosen artifacts of classroom life are given meaning by the teacher's descriptions and reflections" (p. 130, 132)

WRITING WORKSHOP: IS IT A REALITY IN THE CLASSROOM?

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Abstract

Current literature supports the need for teachers to incorporate process writing into their curriculum and advocates writing workshop as an effective way to organize the writing classroom. This survey sought to determine to what extent writing workshop and the associated techniques and strategies were being utilized in the state of Pennsylvania. Statistical analysis revealed that although prewriting and some "publishing" strategies were modeled and integrated into the classrooms, strategies and techniques that provide for student autonomy and a constructive approach to learning were not being utilized to the fullest extent. A series of ANOVAs indicated significant differences in writing workshop and strategy use with regard to teaching experience and type of reading program.

Within the past twenty-five years, there has been a dramatic change in teaching practices to guide students' writing. After the landmark study by Emig (1971) to determine the process students use as they write, other researchers began to investigate the writing process at various levels (Graves, 1973; Sawkins, 1974; Stallard, 1974). Graves (1981) defined the writing process as a "series of operations leading to the solution of a problem. The process begins when the writer consciously or unconsciously starts a topic and is finished when the written piece is published" (p. 4). In this survey, the researchers defined process writing as prewriting, drafting, revising, editing and publishing sharing, five steps commonly addressed in the literature.

In order to facilitate organization during the stages of the writing process, students are usually asked to keep their writings in portfolios. The portfolios are not just collections of student writing; they are a way to learn about students' use of language (D'Aoust, 1992) as they systematically document both the processes they use and their created products. Current literature recommends portfolios as a way for students and teachers to assess and monitor students' writing development (Block, 1993; Tompkins & Hoskisson, 1995).

Experts have suggested that an effective way to implement process writing in the classroom is through an organizational component known as writing workshop (Atwell, 1987; Block, 1993; Calkins, 1986; Graves, 1983; Tompkins & Hoskinsson, 1995). Writing workshops typically take place during the thirty to ninety-minute time periods set aside for students to be immersed in writing each day.

In a writing workshop classroom, students are given considerable autonomy in choosing topics and individual writing models. The classroom atmosphere is one of cooperation within a community of writers. Although the focus is on process, individual products are valued and enthusiastically shared. Additionally, Atwell (1987) describes seven principles that should inform teaching and learning withia writing workshop:

1. Writers need regular chunks of time.
2. Writers need their own topics.
3. Writers need response.
4. Writers learn mechanics in context.
5. Writers need to know adults who write.
6. Writers need to read.
7. Writing teachers need to take responsibility for their knowledge and teaching.

During any one day in a writing workshop classroom, an observer would notice students simultaneously involved in many different stages of the writing process. The teacher, who also functions as a coach, model, and facilitator, usually spends a few minutes of each workshop in a "state of the class conference" determining where each child is in the writing process and what his or her plans are for the period. Mini-lessons also are scheduled during writing workshop to provide instruction to the whole class or small groups on a particular writing strategy, skill, literary concept, or procedure. Whatever the lesson, the content is planned around a specific need evidenced in prior writing or relevant to the needs of individual students in the workshop. The teacher is always available to students during all five stages of the writing process.

Calkins and Harwayne (1991) believe that the writing workshop concept is evolving, just as the teachers and students who participate in it grow and change. It is unclear, however, how widely writing workshop has been implemented. The researchers, who supervise student teachers in public schools in Pennsylvania, have observed over time that writing workshop and the strategies associated with it are not widely practiced in the field. The goal of this study, therefore, was to survey teachers in Pennsylvania to identify the "state of the art" regarding process writing across the state. The survey (see Appendix) requested information concerning the following practices:

1. The utilization of the process approach to writing and the frequency of occurrence.
2. The use of a writing workshop format and the frequency of occurrence.
3. The types of portfolios maintained within the writing classroom.
4. The instructional writing strategies and techniques modeled and integrated into the classroom routine.
5. The frequency of incorporation of specific writing workshop techniques.

Method

Design and Procedures

A self-report survey was designed by the researchers. The survey was reviewed by two statisticians and three language arts faculty members at the university before it was piloted in a master's level reading class. Revisions were made based upon feedback. The final survey contained 23 items and took approximately 15 minutes to complete. The survey was conducted in late spring in order to enable the respondents to have the opportunity to incorporate as many of the aspects of their writing program as possible.

There are twenty-nine Intermediate Units (IU's) in Pennsylvania. Intermediate Units are regional education service agencies created in 1970 to function as educational links between the State Department of Education and the 501 local school districts. From the 29 IU's in the state, the researchers randomly selected 19 that represented all geographic areas. In order to defray expenses, the researchers identified board members of the Keystone State Reading Association in each of the selected IU's to act as contact people for survey distribution. The contact people were asked to distribute the surveys to individual elementary schools. The criterion given was that the schools should include both primary and intermediate grades and that neither specific schools nor teachers were to be selected. Surveys were completed and returned anonymously to each contact person. In order to further maintain anonymity, some teachers chose to mail the surveys directly to the researchers.

Respondents

A total of 401 elementary teachers from across the state of Pennsylvania participated in this study. Survey demographics indicated that the vast majority of the respondents were female (88%), held a minimum of a Master's

Degree (87%), and had ten years or more classroom experience (70%). Most (73%) indicated that they had taken college course work within the past five years. Seventy-five percent of the respondents were distributed relatively equally throughout the first through fourth grades (approximately 20% at each level). Another 17% taught in fifth or sixth grade. Table 1 provides a summary of the grade levels at which the survey participants taught.

When asked to identify the type of reading program currently in use in their respective classrooms, 45% of the respondents indicated that they used a combination basal literature approach; 20% utilized a literature based approach; 11% indicated a basal program, and 22% of the respondents identified their reading approach as whole language.

Table 1. Distribution of Respondents Across Grade Levels

Grade Level	Number	Percent
Kindergarten	16	4.0
First	70	17.5
Second	81	20.2
Third	73	18.2
Fourth	76	19.0
Fifth	45	11.2
Sixth	22	5.4
Missing	18	4.5

Note: n=401

Analyses

Data were analyzed in several ways. First, frequency distributions were determined for each of the survey questions. These data were then descriptively analyzed. Second, a series of ANOVAs was used to determine whether significant differences existed in strategy and writing workshop use between groups of respondents, including different levels of classroom teaching experience, the number of years since college course work, and the type of reading program. Finally, Student-Newman-Keuls post hoc analyses were used as appropriate to identify which groups differed significantly ($p < .05$).

Results

Process Writing and Writing Workshop in the Classrooms

Four hundred one elementary teachers representing 19 of the 29 Pennsylvania Intermediate Units responded to the survey, resulting in approximately a 65% return rate. Of the 401 participants, 89.8% (360) indicated that they used a process writing approach in their classrooms and 82% (329) set aside a regular block of time for process writing. Process writing was defined as prewriting, drafting, revising, editing, and publishing sharing. Ten percent (41) reported that they did not use a process writing approach (see Table 2). Forty-one percent of the total group said they set aside a block of time two or three times a week for process writing; another 20% indicated that they set a block of time aside weekly; and 21% reported a daily process writing time.

Approximately 74% of the teachers in the survey replied affirmatively to the question asking if they used a writing workshop format in their classrooms each week. Writing workshop was defined on the survey as mini-lessons, state-of-the-class conferences, writing and conferring, and group sharing (see Table 2). Of the 295 teachers who used a writing workshop format, 29% reported weekly workshops, 31% indicated that they held writing workshop two or three times a week and 12% responded that their classrooms had daily writing workshop. Over a quarter of the participants who indicated that they practiced writing workshop failed to provide information regarding the frequency with which it is practiced in their classrooms.

Table 2. Percentage of Teachers Who Self-Reported Using Process Writing and Writing Workshop

		Number	Percent
Used process writing approach			
	Yes	360	89.8
	No	41	10.2
Organized classroom as writing workshop			
	Yes	295	73.6
	No	101	25.2
	No Response	5	1.2

Note: n=401

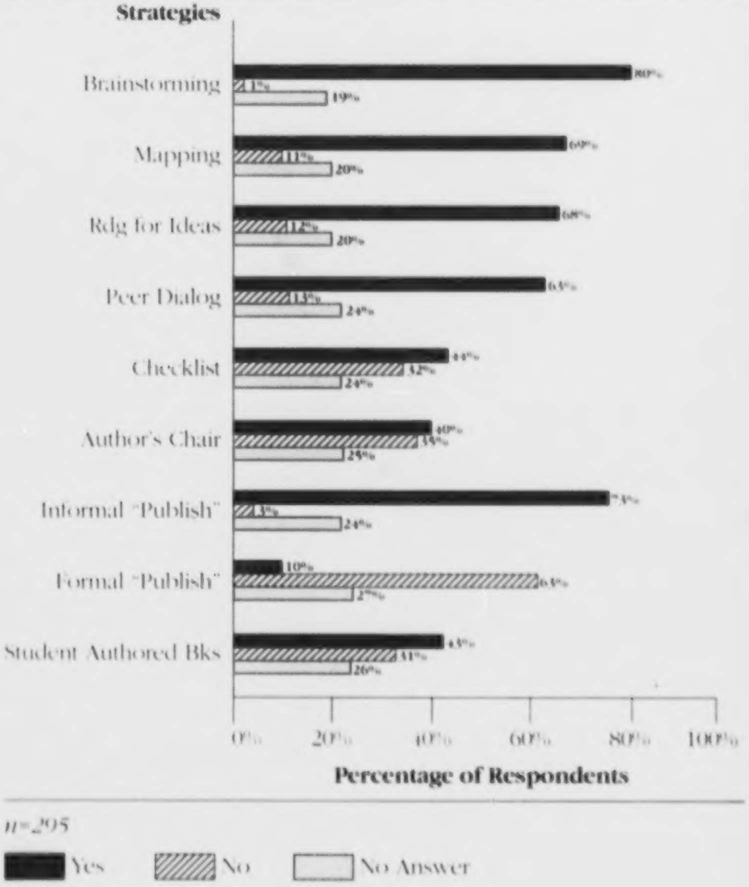
Writing Portfolios

We also were interested in the types of portfolios maintained in the writing classroom. The majority of respondents (62.0%) indicated that they had their students keep individual working portfolios of writing which contained pieces of writing in various stages of development. A majority of teachers (63.6%) also reported that the portfolios were cumulative and that students engaged in on-going assessment of their progress. Less than half of the teachers (43.2%) said they maintained an assessment portfolio for each child upon which they based a percentage of the student's grade.

Writing Strategies

The remainder of the survey was designed to assess what strategies and techniques were incorporated in the classrooms that were organized as writing workshops. Only teachers who reported using a writing workshop format at least once a week (73.5%) were asked to complete the final survey questions.

Figure 1. Percentage of Teachers Using Writing Workshop Who Reported Use of Specific Strategies



As shown in Figure 1, the 295 teachers who indicated that they organized their classrooms as writing workshops reported that they modeled and integrated the following prewriting strategies into their regular classroom routine: 80% brainstorming, 69% mapping and webbing, 68% reading for ideas prior to writing, and 63% affirmatively replied that their students dialogued with peers to focus or elaborate ideas. Informally "publishing" children's work as books, or on walls and bulletin boards was also a strategy reportedly utilized by the majority (75%) of teachers. Sharing student writing via an author's chair as a "publishing" strategy or placing student authored books into the classroom library was integrated into approximately 40% of the classrooms. Only 10% of the teachers who used the writing workshop format submitted student work to children's magazines for possible publication. Less than half of the teachers (approximately 44%), reported having integrated the use of checklists into the student revision and editing stages to improve content quality and the mechanics of writing.

Teaching Techniques

Questions 16 through 33 of the survey focused on teaching techniques advocated in the literature to help teachers organize their classrooms as writing workshops and to help students take responsibility for their learning in the writing classroom. Only teachers who indicated that they organized their classroom in a writing workshop format responded. Of these, only 19% indicated that they conducted a short state-of-the-class conference to determine exactly what all students were doing during each writing workshop; 34% said that they used the techniques most of the time; 47% of the others reported only occasionally or almost never conducting a state-of-the-class conference.

When asked whether mini-lessons were taught based on student need as evidenced from prior writing or to support individual student writing, the majority reported they did so almost always (28%) or most of the time (41%). Thirty-one percent, however, indicated that the mini-lessons were only occasionally or almost never taught based on student need. The majority also indicated that their students self-selected topics and individual writing models (26% almost always, 35% most of the time). Again, over a third of the teachers (40%) reported almost never or only occasionally providing this type of student choice. The results were relatively consistent when teachers responded to the question concerning peer conferencing prior to revision. Nearly two-thirds of the teachers (61%) had students peer conferencing prior to revision almost always or most of the time, while over a third (39%) only occasionally or almost never had students peer conference prior to rewriting. Fewer teachers used peer conferencing for final editing purposes. In response to this question, half of the teachers (50%) reported peer editing; the remaining 50% indicated that they only occasionally or almost never used this technique.

A final question asked teachers if they used individual student conferencing for the purpose of goal setting in their writing workshop classrooms. Once again, approximately 50% of the teachers reported using the technique almost always or most of the time.

A series of One-way ANOVAs indicated several areas of significance. There was a significant difference between groups of teachers of different levels of classroom experience with respect to strategy use as evidenced in survey questions 7-15. The group with over fifteen years experience utilized the strategies significantly less than did the groups with less than six years experience or between six and fifteen years experience ($p = .0465$).

Significant differences also existed in the use of writing workshop with regard to different types of reading programs in the classroom. A Student-Newman-Keuls post hoc analysis indicated that the basal group utilized writing workshop significantly less than those groups who used a literature based, whole language, or combination basal and whole language ($p = .0001$). The same held true for the use of strategies (questions 7-15) and the types of reading programs in the classroom ($p = .0002$).

There were no significant differences between the utilization of writing teaching strategies for teachers using different types of reading programs. Analysis of Variance also indicated no significant differences in the use of strategies as a function of degree achieved or the number of years since the last college course work was completed.

Limitations

Several limitations should be taken into consideration when making generalizations from the findings. First, as in any self-report study, the validity of the study is dependent upon accuracy with which the information is reported by the participants.

Additionally, although Intermediate Units were randomly selected, the schools and teachers who participated in the survey were not. The surveys themselves were distributed by Keystone State Reading Association Board members. The researchers, therefore, did not control the extent to which contact persons or school personnel followed the procedures given for distributing and collecting the surveys.

Conclusions and Implications

Results from this survey suggest that the process approach to writing and a writing workshop format appear to be finding favor with elementary teachers in the schools surveyed across Pennsylvania. The vast majority of respondents reported setting aside a regular block of time, at least once a week, for writing. Most also reported organizing and managing their classroom using a writing workshop format.

Strategies, especially those effective for the prewriting stage like brainstorming, mapping, and reading for the purpose of generating and focusing writing ideas, were reported by the teachers as fairly common routines in their classrooms. Teachers also appeared to recognize that writing needs an audience, since the majority of teachers reported that student work is shared on walls and bulletin boards as well as through student authored books. Students sharing their writing via the author's chair, although not as popular, was reported as a regular practice in more than half of the classrooms where writing workshop was in place.

Strategies and techniques that increase student autonomy and put greater responsibility for learning in the hands of students appeared to be less prevalent. Revision and editing checklists, as well as peer conferencing for revision and editing purposes, were inconsistently used by a large number of the survey respondents. The same was true for permitting student self-selection of topics and writing models (narrative, diary, poetry, expository, etc.), one of Atwell's (1987) seven principles underlying effective writing instruction. Another of Atwell's principles, that students need response, appears to happen in the final writing stage, but the data indicate that students may not be receiving sufficient peer response through the drafting and revision stages. Cooperative peer interaction during these stages plays a pivotal role in building a community of writers, the essence of an effective writing workshop.

It is also interesting to note that although the vast majority of the respondents indicated that their students maintained both working and cumulative writing portfolios, and many maintained individual student assessment portfolios, only half the teachers saw these as an opportunity to conference with students for the purpose of setting future writing goals. Calkins and Harwayne (1991) remind us that one of the reasons for setting goals is to also look back to where we've been because "By noticing growth we nurture it" (p. 258).

Finally, the survey results reinforce the need for literature in any literacy program. In Pennsylvania, it appears that where literature has been added to the reading program more theory-based writing strategies and techniques are practiced in classrooms.

Implications for preparing preservice teachers and for providing staff development for teachers practicing in the field include the need to effectively help teachers conceptualize or refine their perceptions of writing workshop and the paradigm shift that must take place when implementing such an approach. Many teachers in the survey population appeared to still see themselves in an authority role rather than as facilitators, coaches, and collaborators in the writing process where students are encouraged to take control and responsibility for their learning.

Ruddell and Ruddell (1995) believe that when teachers remain current in their field and gain a deeper understanding of themselves as learners and teachers, then act on what is important, writing workshop will succeed. Therefore, preservice education, staff development, on-going support systems within schools, and publications need to emphasize and model those pedagogical techniques that increase student autonomy and facilitate organization and management in the writing classroom.

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Appendix: Survey on Writing Instruction in Pennsylvania's Elementary Schools

Please read each statement carefully and circle or check the response appropriate to your classroom.

1. I use a process writing approach in the classroom. (pre-writing, drafting, revising, editing & publishing/sharing) Yes No
2. I maintain an **assessment portfolio** for each child in my class upon which I base a percentage of their grade. Yes No
3. My students keep a **cumulative portfolio** of their writing and engage in an on-going assessment of their progress. Yes No
4. My students maintain individual working portfolios of their writing. (Distinct pieces of writing in various stages of development.) Yes No
5. I set aside a regular block of time for process writing. Yes No
   If yes, check the most appropriate frequency.
   (a) ☐ daily (b) ☐ two or three times a week (c) ☐ once a week
6. I use the writing workshop format in my classroom each week. (Writing workshop is defined here as mini-lessons, state-of-the-class conferences, writing and conferring and group sharing.) If yes, check the most appropriate frequency. Yes No
   (a) ☐ daily (b) ☐ two or three times a week (c) ☐ once a week

If you use the writing workshop format at least once a week, kindly continue to answer the survey questions. If you do not use the writing workshop format, you may STOP here. Thank you for you time and input concerning writing instruction in the elementary school.

Which of the following strategies have been modeled and integrated into your usual classroom routine:

7. Brainstorming Yes No
8. Mapping and webbing Yes No
9. Reading for ideas prior to writing Yes No
10. Students dialoguing with peers to focus or elaborate ideas Yes No
11. Checklists used by students for checking content qualities and mechanics of writing Yes No

12. Author's chair — Yes No
13. Student writing "published" as books or on walls, bulletin boards, etc. — Yes No
14. Student work submitted to children's magazines for possible publication — Yes No
15. Student authored books placed in classroom library. — Yes No

For the following items candidly circle the frequency with which you utilize each of the following techniques in your classroom:

A) almost always
B) most of the time (more than half)
C) occasionally
D) almost never

16. Peer conferencing prior to revision — A B C D
17. Peer conferencing for final editing purposes — A B C D
18. Mini-lessons based on student need as evidenced from prior writing — A B C D
19. Short state-of-the-class conferences to determine exactly what all students are doing during each writing workshop — A B C D
20. Students self-select topics and individual writing models (poetry, diary, letter, fantasy, informational) — A B C D
21. Teacher conferencing with individual students for the purpose of goal setting — A B C D
22. Mini-conferences with individuals to support student writing — A B C D
23. List the numbers of any techniques you find inappropriate for your grade level. ______________________________

Please explain:

ADULT AND COLLEGE LEARNERS AND LITERACY

ENCOURAGING COLLEGE STUDENTS TO MEET THE ADULT LITERACY CHALLENGE

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Abstract

Two areas of emphasis in the 1990s in the United States are encouraging a community service orientation and achieving a high level of adult literacy. College students can, upon graduation, be a significant resource in both areas. This paper describes a module in which college students explored aspects of adult literacy and ways communities are helping reduce illiteracy. The module helped create an awareness of the vitality of both issues and ways that students could contribute to solutions. After taking the course, students developed a stronger base of knowledge, became more aware of issues and problems, and identified organizations through which they could volunteer. Excerpts from student responses to three questions presented at the start and end of the module, journal entries over time, questions asked by students, portfolio submissions, and projects completed by students are provided to demonstrate these changes.

Introduction

One thrust of the nineties is to promote a service-orientation among individuals and groups (Coles, 1988; Rutter & Newman, 1990). Volunteer service has become a staple of communities, as the Virginia Office of Volunteerism reports (VaCOOL, 1994) in a survey of 800 randomly selected adults. Their results indicate that 61% did some traditional or nontraditional community service activity, citing "it is important to help others" as their major reason for volunteering (p. 15).

Many colleges and universities are either requiring or encouraging their students to perform community service as they pursue their degrees (Cotter, et. al., 1995; Moore, 1994). "Service Learning," as this movement is called (National Community and Service Trust Act of 1993), means that students have the opportunity to learn by actively participating in organized service. Service learning is viewed as a way to instill greater social awareness and conscience in young people (Jacoby, 1994). Students practice community service within credit-bearing courses (Cohen & Kinsey, 1994; Kupiec, 1993; McLaughlin, 1986; Serow & Dreyden, 1990).

Another thrust of the nineties has been an emphasis on the literacy needs and skills of adults. Adult literacy is a much-discussed issue in the United States at this time. The National Institute for Literacy (1995) cautions that "1995 and 1996 promise to be tremendously important to the literacy field in the United States" (p. 2). According to the recent National Adult Literacy Survey (Kirsch, et al., 1993), 21-23% of adults in the United States demonstrated skills only at the lowest level of prose, document, and quantitative literacy. Former President George Bush (1992) was a major advocate of America 2000, which President Clinton (1992) has also supported by noting, "We ought to teach everybody who has a job to read . . ." (p. 137). Many Americans, including college students, are unaware of how challenging this expectation is.

Combining service and adult literacy seems to be a logical extension of each of the thrusts presented above. College students, as prospective members of the working community and those who can help focus on the issue in positive ways, should understand what adult literacy is, what the problems are, and what the contributing factors are. If they do not understand the issues, they will be unequipped as citizens to meet the literacy challenges this nation faces daily. Learning about community service projects, literacy-related agencies and government programs will help students select ways to become involved after graduation.

Offering an exploratory study of adult literacy through short courses or modules within a university setting is one way to provide college students with awareness and a sense of responsibility about adult literacy. Such an offering is consistent with a service learning approach and gives students a chance to "sample" an area of service in a short course for credit. The module described here may serve as a model for other college instructors who want to offer similar workshops or a short course for their students. Growth in student awareness will be demonstrated by sharing the students' pre to post course definitions, as well as their identification of problems and solutions. The process of developing greater understanding and sense of commitment will be demonstrated by journal entries over time, portfolio submissions, and projects completed by the students.

The Setting and Students

The university setting in which this module was offered is urban, in the midst of a city with a population of approximately 203,000. About 22,000 students attend the university. Some students are commuters, but many come from other areas of the state or nation. The university mission includes outreach to the surrounding urban area. Honors students comprise a very select group of students, admitted by high school grade point average and sustained by a record of academic excellence and participation in activities. These students are required to complete several modules as well as designated 3-credit courses. One student's comments in her first journal entry illustrate the honors students' inquisitive natures:

> Perhaps one reason why an informed understanding of this matter has escaped me, and others like me who are immersed in this intellectual sea of books, is that in the college setting where most—but not all—people read, forgetting about the problem has proven to be simple since its presence was never recognized in the first place. On the other hand, given that we students and professors enjoy daily exposure to a plethora of information and consider ourselves so-called intellectuals, why do we not possess a more knowledgeable grasp of this issue? (Student #4)

Ten students completed this module, which is the average for an honors module at this university. Because at least 5 modules are offered every five weeks, students have an array of choices and class size is kept small so that discussion can be lively. Students ranged from freshman to senior level. Many majors were represented: 1 biology, 3 psychology, 1 physical therapy, 1 occupational therapy, 1 nursing, 1 dental hygiene, 1 pre-pharmacy, and 1 arts and design. No education major was represented. These students expressed many reasons for enrolling in the course, some very personal ones such as this student's:

> I have always had a vested interest in the field, for my father is what I used to call "functionally illiterate" which really seems like an oxymoron now. . . . I know that this course will not give me the training needed to teach my father how to advance his literacy skills, but by increasing my awareness of the current literacy problems and the current trends being employed to eradicate these problems, this course will definitely provide me with the knowledge necessary to begin taking steps to help my father. (Student #3)

Some students had simply wondered about the problem and whether they might want to be tutors at a later time. One wanted to know if "this new technique of teaching phonics is for real?" Several commented that the module just sounded interesting, for instance: "It sounded interesting and enjoyable and better than the other options."

Description of the Module

The module was a five-week course. Each week students read 2-3 articles on the weekly topic, loosely grouped around a current trend in adult literacy (Richardson, 1993). Students also heard speakers from the community, reacted to readings through weekly journal reactions or in a portfolio, and discussed the issues in small and large groups.

The course assignments were designed to be action-oriented, with observation and practice encouraged. Because time was short, actual community service was not the expectation; rather, students were to design and complete a project which would acquaint them with future service learning opportunities.

The following course outline indicates the topics and readings for each week:

Course Outline

Format: Instructor introduction of the direction and information with references; student interaction.

Week 1: Defining Adult Literacy—what is it? what is the problem? Readings: Richardson, 1993; Kirsch, et al., 1993.

Week 2: Specialization: ESL; Workplace; Corrections; Family literacy . . . Readings: Ilsley & Stahl,1993; Kibby, 1993; Wagner, 1993.

Week 3: Historical context: The "Quick Fix;" The role of volunteers. Readings: Boraks & McLenden, 1986; Bracey, 1992; Clay, 1992; Kazemek, 1985; Richardson, 1988; Smith, 1989.

Week 4: The role of professionals; Integrating knowledge. Readings: Boraks & Richardson; 1985; Keefe & Meyer, 1991; Malicky & Norman, 1989; Padak & Padak, 1991.

Week 5: New directions in assessment & evaluation. Readings: Finlay & Harrision, 1992; Metz, 1989; Meyer et. al., 1991; Thistlethwaite, 1986.

Two speakers also presented information. One was a middle school teacher from an urban, high-risk school; this teacher is a former police detective and also has taught in both youth offender and adult correctional facilities in Virginia. He discussed the dangerous cycle of illiteracy, environmental influences, crime, and lack of education. He offered some solutions as well. The tutor trainer of a local literacy program also spoke; she explained what this program offered, who typically tutors as well as seeks tutoring, and what the training program is like. College-based student groups, such as SCALE, with contact information provided (see *WHO CARES*), and volunteer literacy groups, such as Laubach and Literacy Volunteers of America, were described.

Course Outcomes

On the first evening of class, before any discussion occurred, the instructor asked students to define in writing their definitions of literacy, their opinions of the problems leading to adult illiteracy, and their suggestions for solutions. Responses also were collected at the end of the last class. Students chose either to keep journal entries over time or to develop a portfolio. The instructor used these assignments to determine if greater understanding and sense of commitment developed. Projects completed by the students were analyzed to see if students were able to identify substantive issues and find answers to their inquiries. Changes in awareness about adult literacy were noted by studying the pre to post responses, journal entries, and portfolio notes.

The Three Questions and Responses

Two changes were apparent by the end of the course. First, the length was greater for the post responses: for question A, lines of response increased from 20 to 26; for question B, from 21 to 22; for question C, from 27 to 30. More significantly, the answers became more thoughtful and sophisticated. Students became more hesitant to offer simplistic solutions.

Question A was "What is adult literacy?" While two students stated that their definitions were still similar, most students qualified their post responses. This is particularly evident for Student #5, who admitted to little awareness before the course:

> I haven't given it much thought; maybe adults being able to read and solve problems.

After the course the student showed more reflection and became more specific in her definition:

> Adult literacy has so many different avenues and parts, it is difficult to come up with a concrete answer: a person being able to function adequately in own setting.

Student #9 first wrote that adult literacy is defined as:

> Adult individual's reading and writing skills.

Later, he defined adult literacy much more comprehensively, considering the adult's environment:

> level of skill one has in reading and extracting meaning; ability to live successfully in this complex society; not one set of skills but a whole spectrum of skill on which adults function.

In her post journal, student #1 wrote:

> As we began discussing in class what others had written, I began to broaden my view of adult literacy. I realized that I and many other

> Americans have limited our idea of exactly what adult literacy is, and how many facets of living it effects.

Question B was "What are the problems leading to illiteracy?" While the problems identified were similar, the sophistication with which these problems were considered at the end of the course is evident. The emphasis at the end was less on blaming the individual and more on an attitude of society. For instance, Student #3 wrote at first that the problem is adults are "not seeking help," while Student #7 attributed the problem to "unwillingness of people to admit that some have a problem; our educational system."

But after the module, both were aware that the "blame" is not all on the learner, and that there is no "quick fix."

> Most people think it can be cured overnight; tutors not trained effectively; relying too much on mechanics of reading. (Student #3)

> previous discouraging experiences of adults; hard for people to find time and motivation to enroll in a literacy program; negative aspects that media portray. (Student #7)

Question C was, "What are some solutions to eliminate illiteracy?" At the end, students were less apt to provide simple solutions, and they acknowledged that they had not discovered "best ways" to solve the problems in just five weeks. For instance, Student #8 wrote that "schools; motivation" are the solution on the first night, but on the last night wrote:

> I'm more aware of problems that exist now than before, and they are hard to solve.

Student #10 thought that "intensive testing" was the solution on the first night, but wrote "a recognition that standardized tests must be a small part of overall assessment" on the last night.

The act of writing the pre to post responses also stimulated a great deal of reflection. Final journal entries were submitted a week after the course ended, thus a week after the post responses were written in class. In her final journal entry, one student wrote:

> I think most of us commented that our definition had only changed slightly, if at all. However, our actual knowledge on the subject has greatly increased. When answering the pre-post questions, all of my answers were relatively similar. The solutions differed the most. Now my solutions lean towards training and motivation.

Another wrote:

> I think that only when I was writing about my new attitudes towards literacy did I begin to get a full grasp of what this module did for me. And I must say I think it did a lot. Although my actual definition of

adult literacy did not call for a total makeover, it definitely needed some reconstruction and a few additions. My problems and solutions, however, needed complete adjustment. Before I centered my criticism on the educational system. That was really a big mistake. Yes, it is a factor, but quite a small one. And when I was first asked to prepare solutions, I had no idea where to even begin. This time, I was able to offer some concrete ways for improvement.

Interim Questions Proposed by Students

After the third session, the instructor invited students to submit questions they wanted the instructor to answer. A professor's dream is to be asked questions which show that students are increasingly becoming responsible for directing their own learning. Students were beginning to broaden their base of understanding and were seeking more specific information. They were moving beyond the original intent of the module, that of increasing awareness. For instance, as they read about teaching strategies, they wanted to know more about them:

> Now that we have a basic understanding of what adult literacy is all about, could you perhaps give us a taste of the different approaches actually used?

The instructor had not anticipated that students would be interested in strategies, methodology, and programs. She found herself altering plans to explain, at least briefly, some of these concerns:

> Which adult literacy programs do you feel are most successful and why do you think they are so much more effective?

Students also asked the instructor to share some personal experiences:

> Could you tell of a tutoring experience that stands out in your mind?
> What made you get involved with adult literacy in the first place?

Responding seemed to be a good way to show how community service can make a difference.

Student Reactions Via Journals and Portfolios

Eight students chose to react to the course through journals; two developed and submitted portfolios. Both assignments were to demonstrate course reflections over time. The portfolios included samples of notes taken during classes, comments about readings and reactions as they occurred rather than in specific journal entries, perspectives about literacy from the vantage point of their majors—pre-medical and arts and communication, and innovative examples of course learning. For instance, student #9 decided to interview several friends about their perceptions of adult literacy. She devised a brief survey and tabulated results. Of particular interest to her was the fact that while 81% of her respondents thought that adult literacy was a major problem, only 56% would consider becoming a volunteer in the future.

In journals, students wrote reactions to their selected readings, thoughts about class presentations and discussion and indicated the evolution of their ideas. Entries richly represented the concerns and growing understanding of students. For instance, student #7 wrote:

> This class has already broadened my knowledge of adult literacy a great deal. I now understand the concept that there are levels to literacy and I have also realized what a negative stereotype most individuals place on beginning readers.

And student # 3 wrote:

> What is dangerous about this myth [anyone can fix illiteracy] is that when the general public finds out that stamping out illiteracy requires much more time and effort than they originally thought, many may get discouraged and eventually give up on the whole idea . . .

Gradually over the course of five weeks, students began to realize that teaching and learning take time; they could see that they had a role to play. For instance, student # 6 wrote:

> During the break, _____ and I argued whether 12 hours was enough time to train someone to teach. At first, I was inclined to say yes; but then I realized that people go to school for years to become teachers. I did not get a chance to ask exactly what is covered in a training session. I'm not sure I could teach someone to read with only 12 hours of background but maybe I would surprise myself!

They discovered some of what is being done and much that might be done in the field of adult literacy. Student #5 shows the enthusiasm a college student can generate:

> My overall opinion of the class is that it was really good. I learned so much about literacy—a lot that I had never even thought about before. In fact, in five weeks, I learned more than I have in my entire eighteen years of living. It is amazing how much my definitions and ideas changed from the beginning of the module to the end of the module. The readings really helped me to get insight into the problem, different solutions, and structures of the different programs there are.

Student #4's first entry was presented at the start of this paper to show the orientation students brought to the course; her final entry provides a summation:

> I feel that in taking this module I have raised my awareness about adult literacy a great deal. I now have a more profound understanding of the basic issues surrounding adult literacy. For example, I have dis-

> pelled my uniformed assumption that literacy is a "black or white" condition and have realized the many shades of gray: that the definition of literacy itself can even vary as a function of individual degree of ability and experience. I have also eradicated my notion that everyone who can't read is a helpless, lazy, nonproductive person. I think that my contribution to dispelling the myths about adult literacy begins with relaying the information that I have gathered to other people in my life, and perhaps even becoming a reading tutor myself. The main idea seems to be awareness and now that I have a more realistic view of adult literacy, I can pass this knowledge on.

Projects

Projects were wide-ranging. Each was designed by the student, with advice from the instructor, to answer an inquiry which developed out of course content. Inquiry projects are considered to be a major vehicle for student-directed learning (Frager & Miller, 1992). Most were active learning projects (5) involving some observation at a program. Three were interviews with literacy providers and one was a telephone/e-mail interview with the director of SCALE. They included corrections, work place, intergenerational, and school-based programs. One was a paper about technological applications to use in adult literacy programs. While each student's approach was slightly different, they were unanimous in expressing satisfaction with what they learned. Student #10 sums this up well:

> In summary, the hands-on observation of an adult literacy program gave vivid insight to the methods and techniques employed during instruction. Furthermore, watching the students was simultaneously a humbling and exciting experience, especially when equipped with enough knowledge to view the process in a positive and rewarding light. The themes of empowerment, ownership, and enjoyment seem to be the cornerstones for adult learners to be productive and successful in advancement of their literacy level.

Students shared their projects informally during the last session. They took notes and questioned each other during each presentation. As one student wrote in her final journal,

> I enjoyed hearing a little about everyone else's project. Everyone's ideas and project goals were different in some way, which showed a wide variety of topics in the area of adult literacy. Many of the interview questions were ones that I have often asked myself during the last five weeks. (Student #7)

Summary and Applications

This module was designed to introduce college students to the field of adult literacy, to encourage them to become involved in literacy projects at some level immediately and to inspire them to make time for community involvement in post graduate years.

From the responses and writings collected, students themselves indicated that they have become aware to a much greater extent about adult literacy issues. They broadened their perspectives and learned about literacy in action in their community. Students did become involved in some aspect of literacy during the course, thus meeting the goal of an immediate interaction. This interaction is illustrated in projects carried out. While most students commented, either in journals or portfolio documentation, that they now expected to make time for volunteer work in literacy in their futures, this "inspiration" cannot be verified at this time. As student #6 wrote in her journal:

> I think it would be beneficial for them to recruit volunteers at local colleges. However, many college students may have problems fulfilling the one year commitment if they weren't planning to live in Richmond over the summer. I wish I had known so that I could have volunteered before becoming a senior. I think many students would be willing to volunteer, but aren't aware of the opportunities that Richmond offers.

For the student with a personal agenda, quoted at the beginning of this paper when she revealed that her father was a poor reader, the module satisfied her objective.

> This class has really served to spark my interest in adult literacy. I so much want to get involved; but, with my hectic schedule, I think I'll have to put off being a tutor—at least for another year. This class has given me valuable information and has led me to renew my "fight" to get my father to understand the importance of literacy. I know that I can't force him into anything, but I can encourage him and get him on the right track! Wish me luck! (Student #3)

This student will most likely continue to keep literacy foremost in her agenda, given her personal involvement. Other students also are likely to keep literacy in their future plans. Student #8 reflects this hope in her course summary:

> I hope some day, after my schooling is through, to be able to volunteer in an adult literacy program in my home town.

This module can be a model for other college instructors who would like to reach students not enrolled in education courses, but for whom an awareness about literacy issues might translate to awareness about education generally and their roles in contributing to the improvement of literacy in their communities.

The vehicle, a one-credit module of five sessions, is a very workable format for an introductory approach in which awareness can be created through careful selection of readings, introduction of speakers, lively discussion, personal writing for reflection, and action-oriented inquiry. If a college or university generally offers credit in one three-hour unit, then three, one-hour units offered over the semester could substitute. Each unit might address a different aspect of service and adult literacy.

While the students enrolled in this module were honors students, that is not a prerequisite. Any interested group of students lead by an instructor willing to identify the readings, set up the topics and speakers, and aid students in finding project resources would surely produce a similar result: students who become aware of an important national issue and the role they can play, now and in their futures, in community service.

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WORKPLACE LITERACY PARTICIPANTS: WHAT IMPACT HAS GED COMPLETION HAD ON THEIR LIVES?

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Abstract

This study investigated the impact of successful completion of the General Equivalency Diploma test (GED) on the personal, academic and professional lives of participants in a workplace literacy project. The subjects were 30 employees (16 females and 14 males) of a poultry company who were enrolled in a job-specific literacy training program that integrated GED instruction. The overwhelming majority felt that the GED helped them in their personal lives by improving their self-concepts. A number of participants indicated that they continued or plan to continue with their education in a post-secondary or vocational program. Two-thirds of the participants indicated that the program has helped them with their job skills. Several were promoted or expect promotion and several intend to change jobs in the future. Overall the results showed that the GED had the greatest impact on their personal life but also brought positive changes in their academic and employment prospects.

For over 50 years, the General Equivalency Diploma examination (GED) has provided an opportunity for individuals who drop out of school to earn the high school credential. Students who have successfully completed the GED test represent nearly 15% of high school completions in the U.S (BCEL Newsletter for The Business & Literacy Communities, April, 1992). The question of interest is what impact successful completion of the GED has had on the lives of the participants.

Research on the value or impact of the GED shows mixed results. Several studies have followed GED completers to determine the impact on their lives. In an analysis of eight followup studies in Canada and the United States, Sabino and Seaman (1988) concluded that "for many adults, completing the GED program provides the motivation to continue their education" and many perceive the GED certificate as a "second chance." (p. 5) Sabino and Seaman state, "The majority of successful test completers meet their immediate expectations, i.e., different or better job or enrolling in some educational program . . . about 25% of the candidates take the test for personal reasons apart from utilitarian purposes" (p. 4). The benefits cited for participants in the GED program included improved self-worth, increased citizenship/community involvement, increased general knowledge, and better attitudes toward family members.

Another longitudinal followup study conducted in Iowa determined the impact of the GED over 2, 5, and 10-year periods. The results indicated that respondents reported substantial increases or improvements in employment rates, job skill level and job satisfaction, self-esteem and general quality of life, parenting skills, and the ability to enroll in higher education (Iowa Department of Education, 1992). Beder (Iowa Department of Education, 1992) noted in a review of the most credible adult literacy education impact studies, "increased self-concept is the most universal impact of the federal adult literacy program" (p. 31).

Substantial impact of the GED also was indicated in studies by Hayes, 1992 and Georgia Department of Education, 1991 (cited in Iowa Department of Education, 1992). The American Council on Education study by Baldwin (cited in Iowa Department of Education, 1992) revealed "one half (forty-seven percent) of GED recipients, age eighteen to twenty-four, planned to enter higher education. . . ." In contrast, another study of subjects under the age of thirty, Cameron & Hickman, 1991 (cited in Iowa Department of Education, 1992, p.38) found the GED "had little impact on employment and economic impact variables." Thus, the Iowa report indicates that additional research is needed "to assess the impact of earning the GED diploma conclusively" (Iowa Department of Education, 1992, p. 38).

Recently, the U. S. Department of Education requested public comment on the reauthorization of the vocational and adult education programs, specifically on the value of the GED examination as a measure of academic competence and achievement. The Department views research results as inconclusive and contradictory; therefore, it is important to provide additional research information on the impact of GED instruction if continued support for GED programs is to be expected.

This paper describes the results of followup interviews with participants of the Career Enhancement Program (CEP), a workplace literacy program administered by James Madison University (JMU) in partnership with several companies in the Shenandoah Valley of Virginia. In this program, workers were able to study for the GED, which was integrated into the workplace curriculum developed during the federal grant periods. In 1989, with funding by the U.S. Department of Education National Workplace Literacy Program, the instructional program began at two poultry processing plants, Rocco Enterprises, Inc. and WLR Foods, Inc., through the use of a mobile learning center. The van was equipped with various print materials and computers, as well as a competency based management system. It traveled to each company to deliver instruction. In the second round of funding, the original classes were transitioned into company supported classrooms, but the individualized instructional program remained the same under the direction of the CEP. The poultry companies continue to maintain the CEP name and a cooperative relationship with the JMU workplace program.

Since there are very few job-specific literacy skills directly related to the reading, writing and math required in the everyday tasks of production workers, a workplace specific curriculum was developed based on company benefits, policies, and other reading or writing materials. However, participants showed a strong interest in entering the program if they could complete their high school educations in addition to the job-related goals. Promotion to higher-level positions or enrollment in other training programs requires a high school diploma or successful completion the GED examination. Thus, basic skills and GED instruction were integrated with the company-based workplace curriculum. In a previous study with poultry workers, completion of the GED was considered both a personal and work-related goal. These goals gave workers important reasons for entering and continuing in the program (Merlin, 1994).

In this study, employees were interviewed at one of the companies, Rocco Enterprises, Inc. Rocco is a major poultry company with corporate offices and several processing plants in the Valley area. According to Patty May, a Rocco spokesperson, (personal communication, October, 1994) the company became involved in the workplace literacy program and encouraged its employees to take advantage of this opportunity because it has a strong commitment to education and employee development. In order to help employees develop their own skills and reach their maximum potential, Rocco encourages employees to take advantage of their GED classes. The company feels that those who have completed the program have enjoyed greater self-confidence and self-esteem. Rocco is aware that many employees have completed the program simply to satisfy personal goals, but indicates that these employees have become stronger, more self-confident individuals and thus are better employees. Company representatives indicate that the pay-off of the GED classes cannot be measured in bottom-line dollars, but is apparent in better employee morale, better employee loyalty, reduced absenteeism, and higher productivity.

In addition, a number of successful graduates have gone on to local community colleges and some have been promoted within the organization, while others have left the company to pursue other opportunities.

The major purpose of this study was to determine the impact that passing the GED had on the lives of Rocco employees enrolled in a workplace literacy program.

The questions addressed were:

1. What impact has the GED had on employees' personal lives?
2. What impact has the GED had on employees' educational and job goals?

Method

Subjects

A total of 30 of the 83 workers employed by Rocco Enterprises, Inc. who passed the GED test between 1989 and 1994 were interviewed. Table 1 provides demographic information related to age, gender, and ethnicity.

Table 1. Demographic Information

	Percent	Age Range	Average Age
Males	47	20-55	34
Females	53	22-49	34
Hispanic-American	7	20-22	21
Anglo-American	93	22-55	35

Note. N=30

There were 2 more female respondents and in the total group of 30, there were only 2 Hispanic-Americans who had recently immigrated.

In this individualized open-entry, open-exit program, the total months and hours of study differed for each individual. The participants could remain in the program until they completed their goal(s). Individuals participated in the program for varying lengths of time. Involvement for females ranged from 2 months to 22 months. Male involvement ranged from 2 months to 15 months. However, the average number of months that participants studied in the program was similar for males (8) and females (7). Of course, those with higher level entry skills or good attendance usually completed the program in less time.

Classes were held for two hours, twice a week. Thus, while the total average hours of study for all subjects was 100, there was a wide range of study overall from 21 to 260 hours. Generally, the females required somewhat less time to complete their GED than the males.

Procedure

Thirty interviews out of a possible 83 were conducted by two project teachers over the telephone or on company sites, in cases where telephone numbers could not be released. The teachers were familiar with their former students and had established rapport with them. The other 53 potential respondents could not be reached.

Survey Results

Tables 2 through 4 show the survey questions and information obtained from each participant. The questions in the interview were designed to determine whether the GED had impact on the workers' personal, educational and/or employment situation. The interview also included background questions on reasons for not completing school, as well as how the participants were recruited for the workplace literacy class and what encouraged them to stay with the program.

In the responses to questions on the personal impact of completion of the GED program shown in Table 2, the overwhelming majority (83.3%) indicated that the GED helped them in their personal life. It helped some with personal financing (26.6%) and with their school children (43.3%), although the GED workplace curriculum did not specifically cover those personal areas. Thus, it is not surprising that all 30 (100%) respondents said it helped them feel better about themselves. Several (33.3%) stated they have more confidence in themselves and feel they have reached goals. See Appendix for further comments.

As shown in Table 3, over one-third of the respondents (36.6%) reported that passing the GED helped with educational opportunities. Fifty percent indicated it had not helped them "yet," although they believed it could do so

Table 2. Survey Questions: Personal Impact of GED

1. Has passing GED helped you in some way in your personal life?		
Yes	25	(83.3%)
No	5	(16.6%)
A. Has it helped you with personal financing, record keeping?		
Yes	8	(26.6%)
No	22	(73.3%)
B. Has it helped with your school children?		
Yes	13	(43.3%)
No	5	(16.6%)
N/A	12	(40%)
C. Has it helped you to feel better about yourself?		
Yes	30	(100%)
(1 said "for a while"—see comments)		
No	0	
D. Other responses:		
Have more confidence	6	(20%)
Helped them motivate others	2	(6.6%)
Feel they conquered goals	4	(13.3%)
Want to continue learning about computers	1	(3.3%)

Table 3. Survey Questions: Educational Impact of GED

1. Has passing the GED helped you with educational opportunities?		
Yes	11	(36.6%)
No	4	(13.3%)
Not yet	15	(50%)
A. Have you continued with any education program?		
Yes	8	(26.6%)
No	4	(13.3%)
Not yet	18	(60%)
B. Programs:		
Blue Ridge Community College	4	(50% of 8)
Business Automation, Math & English Poultry Management Computers		
Vo Tech. Other	4	(50% of 8)
Maintenance, Computers Truck Driving (passed CDL test) Certification in Operation of Wastewater Treatment Plants		
2. Do you plan to continue your education?		
Yes	14	(46.6%)
Maybe	6	(20%)
Already Continuing-(See above)	6	(20%)
No	4	(13.3%)
Expressed Specific Interests:	20	(66.6%)

in the future. Almost 27% have continued in educational programs and some 60% indicated that they had "not yet" pursued any further educational program. The educational programs of those continuing include courses at the community college in business automation, math, English, and poultry management computers.In addition, some participants are enrolled in vocational technical school and other facilities in maintenance, computers, truck driving, and operation of wastewater treatment plants. About 47% percent plan to continue their education, 20% said "maybe," and 20% already are continuing. Twenty-five percent mentioned computers as an area of interest. See Appendix for additional comments.

Responses in Table 4 show that 46.6% of the respondents believe the GED has helped them in their jobs or careers. Thirty percent had already been promoted. Of those, 3 had moved on to a better job. Some respondents (13.3%) have not tried to improve their employment positions. One felt he was as high as he would ever get. Those who were promoted moved up to positions in quality control and supervision as well as jobs such as lead position on the line and truck driver. Several (20%) expected to be promoted or changed to a better job, while 53.3% did not expect promotion but expected a raise. The expected positions included supervisory or quality control, if and when an opening appeared. When asked if they improved on the job after passing the GED, 63.3% indicated yes and 36.6% said no. Several stated that they did not need improvement in anything, again showing that their reason for remaining in the program was not job-related. It should be noted that they were less positive when asked if the GED had helped them in their job in the earlier question (46.6%). Possibly, questions 2 and 3 about promotion had some influence on the responses in question 4. See Appendix for additional comments.

For the question concerning their ability to read company materials better, 33.3% said yes and 53.3% said they did not need improvement. Fifty percent felt they could write notes or other types of communication better, while 33.3% did not need improvement. About 7% said their job did not require writing. In regard to math, 36.6% stated they improved their math on the job, while 30% indicated they did not need improvement. About 27% stated their job did not require math.

Discussion and Conclusions

It is evident that passing the GED has had some impact on personal, educational, and job/career areas. The greatest impact has been in the personal area. Continuing opportunities for education and job changes are available if participants are able or interested in taking advantage of them. Comments made in the interviews indicate participants had positive feelings toward the program and the opportunity to complete their GED. Improved self-concept and the opportunity to get promoted or move to a better job were evident. Several negative comments focused on how getting the GED did not guarantee promotion.

The responses in this study appear to confirm Cole's (1992) finding that manufacturers are realizing they cannot do without a skilled, confident workforce. An employee's self-esteem may play an important role in productivity and performance. Cole (1992) cites Don Krafnick, Work Force Specialist for Aiken Technical College, who states, ". . . Most of our work force programs are tailored to meet the individual needs of employees where they determine the pace and levels of achievement. Some employees simply want to improve their reading and math skills while others have obtained their General Equivalency Diploma (GED) and gone on to college" (p. 4). Cole further states that companies are investing huge sums of capital in the latest technology to become more competitive. However, they realize that "without a highly-skilled, literate work force to operate and maintain this new machinery and equipment, the technology is useless" (p. 4).

Table 4. Survey Questions: Impact on Your Job/Career

1. Has completing the GED test helped you in your job?		
Yes	14	(46.6%)
No	16	(53.3%)
2. Have you been promoted?		
Yes	9	(30%)
(3 of 9 got a better job)		
No	17	(56.6%)
(4 of 30 have not tried)		(13.3%)
Positions:		
Supervisory	2	(1 promoted twice, first to QC Tech)
Lead position	2	(1 was promoted again to truck driver)
Truck driver (CDL)	1	(a second promotion, moving to a lead position)
Q.C. Tech	2	(1 then promoted to supervisor)
Not specified	1	
3. Are you expecting to be promoted?		
Yes	6	(20%)
4. Have you improved on the job after passing the GED?		
Yes	19	(63.3%)
No	11	(36.6%)
(includes those that did not need improvement in anything)		
5. Can you read company information and bulletins better?		
Yes	10	(33.3%)
Did not need improvement	16	(53.3%)
Job does not require	0	
No	0	
No response	4	(13.3%)
6. Can you write notes or other types of communication better?		
Yes	15	(50%)
Did not need improvement	10	(33.3%)
Job does not require	2	(6.6%)
No response	3	(10%)
7. Have you improved your math on the job?		
Yes	11	(36.6%)
Did not need improvement	9	(30%)
Job does not require math	8	(26.6%)
No response	2	(6.6%)

While not all individuals in this study have continued in educational programs, there are some who still expect to do so. Although some graduates were promoted or have taken different jobs, others remain at their previous job. This also can be expected since there have been a limited number of promotions available over the time of the study in the company involved. Hence, continued training in other areas besides the poultry production line is a possibility for those who wish to leave their jobs. This is not an easy choice for those who are employed and may not be able to move to other areas or take other types of risks. Many factors including age and family situations are involved in making changes.

Limitations

The results of this study should be interpreted in light of several limitations. First, the interviews were conducted by the respondents' teachers, which may have influenced the positive manner in which the respondents answered some of the questions. However, the teachers agree the participants are generally very open about their opinion of the program. Another limitation is the small sample size, as only 30 of these possible participants were located and interviewed. It was difficult to get in touch with participants, especially those who had left Rocco. Therefore, these results constitute a "snapshot" view on the impact of the GED on a select group of workers from one company.

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Appendix

Personal Comments

The following comments represent the personal impact of the GED.

"If it hadn't been for that program, I wouldn't be where I am today!"

"I feel I'm motivating lots of others . . ."

"Just being able to know I could do it at my age made me feel good."

"Really helped me feel better about myself. . . . Maybe it doesn't seem like such a big deal to some people, but it was an accomplishment I was proud of!"

"Felt bad about not having a high school diploma and since I got my GED, I feel a lot better about myself."

"Made me feel better about myself."

"Years ago I told my father I would get my high school diploma or GED. . . . I did it."

"If anyone doesn't give it a try they are just hurting themselves. . . . I felt no anxiety in the classrooms. . . . I wasn't made to feel embarrassed if I had the wrong answer. . . . It was easy to do and I was able to learn and concentrate."

"My son is staying in school at all costs. . . . There is another boy that I have sort of taken under my wing. . . . He is close to dropping out. . . . If he does, I am telling him when he is 18 that he is getting his GED."

"My children don't like school, and I can tell them it's better to stay in school. . . ."

"Made me feel good about myself . . . made me want to go ahead and take other classes. . . . Gave me more confidence. . . . I appreciate the Career Enhancement Program."

"Still use GED book to help kids with homework . . . know where to find information and help for them."

"GED was a very big step for me."

"I've always wanted to accomplish getting the GED. . . . I'm glad it's over with and I'm glad I did it."

"My sister and sister-in-law in the program now. . . . Like to think I encouraged them."

"I'm encouraging my fiance to get her GED . . . and helping her."

Job-Related Comments

The following comments represent the impact the GED had on the students' jobs:

". . . A job I'm interested in should open up in November, and I now have my GED, which is required for this position."

"GED produced more encouragement in trying other things and applying for other jobs. . . . It really helped when I got promoted."

"I've signed up for a quality control job . . . need GED for this."

"I'm reaching up!"

"Really helped me with my job. Helped me get a better job . . . more pay and easier work."

"If I wouldn't have gotten my GED, I'd still be a line worker. . . . Now company will send me for more classes."

"I feel better about myself . . . know if I get fired, I could get another job. . . . Need GED to get almost any job these days."

Program Comments

The following comments represent the students' classroom experiences and their feelings about the Career Enhancement Program:

"Teacher with the program . . . would not let me quit."

"It was fun. . . . A lot better than going to school."

"It is a great opportunity . . . whoever can get it should go. . . . It is free and it doesn't take away from your work hours. . . . It is a great program that Rocco has."

"Teacher encouraged me to come as much as I could."

"Teacher was encouraging . . . made me feel I wasn't as dumb as I thought."

"I never felt put down. . . . Teachers were down-to-earth . . . make you feel comfortable."

". . . Career Enhancement Program is terrific! . . . Think it's great that Rocco has this program . . . let people off to come to class. Supervisor was encouraging when I was in class."

"Could get off from work to go to class, so it did not affect my family commitments in the evenings."

"Career Enhancement Program is a real good thing. . . . I think everybody should do it."

"Teachers made it easy . . . was not an uncomfortable situation. Rocco made it easy . . . brought it right to us. Couldn't have a better deal than getting off work to go to class."

"Think Career Enhancement Program is really great!"

"Hope Rocco doesn't let program loose."

"Wasn't like school used to be. . . . Teacher made it fun."

"Think Career Enhancement Program is a good thing that anyone who doesn't have GED should try."

Criticisms and Disappointments

"Only thing I think GED is wrong about is the things being taught you don't need, especially math, science and history . . . you do need communication and comprehension . . . Rocco should consider giving us some Spanish."

"For a while it helped me to feel better about myself . . . tickled to death when I got the GED . . . but the longer I stayed at my job the worse things were."

A number of students did not comment about the GED helping in either their personal life, with educational opportunities, in job advancement, or with any combination of these.

THE EFFECTS OF PERCEPTIONS OF FAILURE AND TEST INSTRUCTIONS ON TEST PERFORMANCE OF COMMUNITY COLLEGE STUDENTS

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Abstract

This article describes a study on the effects of failure in reading test performance. In the first experiment of the study, students were exposed to no feedback or failure feedback in dissimilar reading tests in order to address the impact of attributional styles. In the second experiment, subjects were restrained from engaging in off-task thoughts to test whether performance decrements following failure would be reversed. Students who attributed failure to universal causes tended to exhibit performance deficits and increased off-task thoughts following unsolvable tests. However, instructions that discouraged students from engaging in off-task thoughts eliminated the detrimental effects of universal attributions of failure.

An important yet little understood question is "What are the effects of perceptions of failure on reading test performance?" Many decisions regarding student performance are based on tests. Tests are used to make accreditation, mastery, and certification decisions (Royer & Feldman, 1984) and their consequences are profound for the participants (Paris, Lawton, Turner & Roth, 1991). Tests contribute to the diagnostic process (Bejar, 1984; Glaser, 1981; Johnston, 1984) and they are also used as the major and often the sole basis for sorting, selecting, and placing students (Cross & Paris, 1987). These placement decisions, in turn, may affect teachers' educational goals, objectives, and educational approaches. Differential instruction, based on student grouping, may further influence student performance (Allington, 1983).

Given the importance of tests, reading research has investigated a variety of cognitive factors that influence test performance; among them are word recognition (Barron, 1986; Freebody & Byrne, 1988; Stanovich, Nathan, West & Vala-Rossi, 1985), story grammars (Morrow, 1987; Stein & Glenn, 1979), vocabulary (McKeown, Beck, Omanson & Pople, 1985; Mezynski, 1983; Stahl & Fairbanks, N.M., 1986), prior knowledge (Anderson & Pearson, 1984; Johnston, 1983; Johnston, 1984; Rumelhart, 1980), and reading strategies (Hare, Rabinovitz & Schieble, 1989; Johnston & Afflerbach, 1985; Kieras, 1982). However, reading research has not often considered affective factors such as failure.

Recent research suggests that perceived failure can have a dramatic effect on human performance in general and test performance in particular. Dweck and Licht (1980) state that for some students who have experienced failure, the effects are positive: effort escalates, concentration intensifies, persistence increases, strategy use becomes more sophisticated, and test performance is enhanced. On the other hand, for other students just the opposite happens: efforts are curtailed, strategies deteriorate, and performance is often seriously disrupted. Researchers also have found that the students who react differently following failure are similar in all other respects such as sophistication of problem solving strategies, standardized measures of intelligence, mastery of subject matter, and accuracy. The only trait that distinguishes them from one another is the way they interpret and act upon failure.

Since a certain amount of reading is involved in practically all test situations, one would expect to find an abundance of reading research dedicated to the impact of perceived failure on reading test performance. But this is not the case. Despite the considerable body of research (Abramson, Seligman and Teasdale, 1978; Alloy, Peterson, Abramson and Seligman, 1984; Anderson, 1983; Langer, 1975; Mikulincer, 1986; Paris et al., 1991; Pasahow, 1980; Wortman and Brehm, 1975) that has dealt with the effects of perceived failure on performance, there has been little, if any, research to date that addresses reading test performance following perceived failure. Therefore, the effects of failure on reading test performance are little understood. Although the relation between failure and reading test performance has not been specifically examined, recent research suggests that such a relation exists (Mikulincer and Nizan, 1988).

A framework that addresses the effects of perceived failure is the anxiety excuse construct of the attribution theory. The attribution theory states that exposure to uncontrollable events causes people to feel helpless in many situations, including testing (Peterson & Seligman, 1984; Weiner, 1986). The way people transfer their feelings of helplessness from one test situation to another depends on 3 critical dimensions: internality, stability, and globality. External helplessness occurs when an outcome is perceived as independent of a person's responses, as well as independent of responses of other people. Internal helplessness is the case where the individual believes that there are responses that would produce the desired outcome but he or she does not possess them (Abramson, Seligman & Teasdale, 1978). Thus, internal helplessness becomes equivalent to "failure." Failure means that there was a possibility of success and the unsuccessful attainment of the goal is attributed to internal factors.

In attempts to explain consistency over time and across situations, researchers (Weiner, 1974; Weiner et al., 1971) introduced the notion of "stability" and "globality." Stable factors are the ones that are long-lived while unstable factors are short-lived. Stable factors are usually connected with traits such as ability and effort, while unstable factors are connected with task difficulty and luck. The notion of globality is connected with factors that occur across a variety of situations (Dweck & Reppucci, 1973).

According to the attribution hypothesis, the basic assumption is that when people are unable to control desirable outcomes they usually give up and generalize their failures to a more or less broad range of causes. Specific attributors are people who attribute failure to specific or limited, unstable, and external causes. Universal attributors are people who attribute failure to global, internal and stable causes. They expect the causes of failure to be present and expect uncontrollability across more tasks than specific attributor. The transfer of this expectation reduces motivation and impairs performance (Alloy, Peterson, Abramson & Seligman, 1984).

People who are universal attributors also exhibit more functional deficits as compared to specific attributors; this is explained by the excuse/anxiety hypothesis of the attribution theory (Kuhl, 1981; Snyder & Higgins, 1988). This hypothesis states that exposure to uncontrollable events provokes anxiety, which then causes inability to use excuses and encourages off-task thoughts; the off-task thoughts then cause functional deficits and impair performance.

Mikulincer and Nizan (1988) conducted a study in which they addressed the effects of off-task thoughts on universal and specific attributors. The results showed that, for universal attributors, exposure to unsolvable problems produced both deteriorated performance in dissimilar tasks and more off-task thoughts. In addition, the introduction of instructions that discouraged subjects from engaging in off-task thoughts eliminated the detrimental effects of the universal attributions of failure. Mikulincer and Nizan's (1988) research was conducted in an experimental setting and did not address the effects of perceptions of failure as they relate to reading test performance. Therefore, the purpose of the current study was to replicate their study in a college setting, substituting a series of reading tests for their tests.

The current study was performed in two experiments. Experiment 1 was designed to address the impact of universal and specific attributional styles on off-task thoughts and performance following induction of failure in an unsolvable reading test. Experiment 2 was designed to replicate Experiment 1 and to test whether performance decrements (following universally attributed failure) would be reversed by discouraging subjects from engaging in off-task thoughts. The basic prediction was that the elimination of off-task thoughts in reading tests would decrease the attributions of failure for subjects who gave universal rather than specific attributions of failure for their test performance.

Specifically, the predictions included the following:

1. Subjects who attribute failure in unsolvable reading tests to universal causes would perform worse on dissimilar reading tests than subjects who attribute failure to specific causes.
2. Subjects who attribute failure to universal causes would engage in more off-task thoughts during reading tests following failure in an unsolvable test than subjects who attribute failure to specific causes.
3. Subjects who have more off-task thoughts would perform worse following failure in dissimilar reading tests than subjects who have fewer off-task thoughts.
4. Instructions aimed at restraining subjects from engaging in off-task thoughts would eliminate the detrimental effects of attributions for failure on performance in reading tests.

The first three predictions were addressed in Experiment 1. Experiment 2 addressed the fourth prediction.

Experiment 1: Method

Subjects

The subjects were 36 students enrolled in three intact reading and study skills courses at an upstate New York community college. The sample consisted of 17 females and 19 males ranging in age from 19 to 44 ($M = 24.3$). The students were not pretested specifically for this experiment for their reading level. Instead, their available placement scores, based on the Nelson-Denny Reading Test, were used. The knowledge of the students' reading level was necessary in order to eliminate possible test difficulty-attribution to failure interaction.

Instruments

Attributional style was assessed by the Attributional Style Questionnaire (Peterson, et al., 1984). It consists of 12 hypothetical events, six negative and six positive. Each event has four questions. The first question asks the subjects for one major cause for each event which is not used in the scoring, but is necessary for the test taker to answer the next three questions. Each event has to be rated on three 7-point scales, tapping the dimensions of internality, stability, and globality. Scores are derived by averaging across dimensions and across events. Each individual dimension ranges from a score of 1 to 7, therefore, the range is from 3 to 21 for composite positive and negative events. In order to arrive at the final attributional style scores, the composite negative scores were subtracted from the composite positive scores.

The dissimilar reading tests consisted of the "Unsolvable Reading Test" (Ackerman, 1978) and the verbal (reading) section of the Assessment and Placement Test for Community College Students (The College Board, ETS, 1985).

The Unsolvable Reading Test was developed by Ackerman (1978) in order to assess children's ability to make presuppositional inferences and consisted of two contextual variants and a series of questions. For the present experiment, one of the contextual variants and the 10 unsolvable questions were used. The Unsolvable Reading Test is written at the fifth grade level as determined by Flesh's 1974 (Singer and Donlan, 1980) reading formula. The low level was necessary in order to exclude reading difficulty as a possible confounding factor. The first part of the Unsolvable Reading Test consists of six paragraphs which tell a simple story. The second part of the Unsolvable Reading Test consists of 10 "Yes" or "No" questions.

The "Reading Memory Test" results were used to induce failure. After taking the test, subjects were informed that they had responded to 70% of the items incorrectly.

The second test was the reading comprehension (verbal) section of the Assessment and Placement Test for Community College Students (1985) which provides reading texts in different content areas. The Assessment and Placement Test consists of 35 questions and the scoring is done by tallying the correct answers. Students are asked to choose the correct answer out of four possible answers.

The students' performance on the Assessment and Placement Test was compared with their previous performance on the reading comprehension section of a comparable test, the Nelson-Denny Reading Test (Forms E and F, 1981) ($r = .86$). Reading performance of the subjects was obtained by calculating the difference between the percentage of correct answers on the Nelson-Denny Reading Test and the Assessment and Placement Test for Community College Students.

Task-irrelevant thoughts were assessed using the Cognitive Interference Questionnaire (Sarason, et al., 1986). The Cognitive Interference Questionnaire consists of 21 items. Of these items, 10 are task-relevant thoughts and 11 items are task-irrelevant thoughts. Subjects are asked to rate on a five point bipolar scale (1 = never, 5 = very often), the frequency with which they occur. In addition, the Cognitive Interference Questionnaire measures the degree to which the subjects' minds wander using a global rating on an 8-point scale.

Procedures

Experiment 1 was conducted in two sessions. In the first session, the subjects received the Attribution Style Questionnaire. Based on the scores on the Attribution Style Questionnaire, the subjects were divided into two significantly different groups ($t = -8.6$, $p < .01$) groups (a) universal attributors ($M = 1.7$) and (b) specific attributors ($M = 4.9$).

The second session started with the perceived failure training phase. All subjects were told that they would be administered a test designed to assess their "reading memory" and they received the Unsolvable Reading Test. Next, the subjects were asked to write a free recall on a blank sheet of paper. This procedure was necessary because there was a need for a 10 minute time period to prepare for the next phase of the experiment. The activity of free recall was chosen for this purpose because it was best suited to be perceived by the subjects as an integral part of the so-called "Reading Memory Test." While the subjects were writing the free recall they were randomly divided into two conditions: (a) no feedback condition and (b) failure feedback condition. The subjects in both groups received the Assessment and Placement Test, but the subjects in the failure feedback condition also received the message of failure in the form of the "Reading Memory Test Results." The next phase consisted of the test task which was the verbal section of the Assessment and Placement Test and it was given to subjects in both conditions. Immediately following the Assessment and Placement Test, the subjects were administered the Cognitive Interference Questionnaire. Finally, the students were debriefed.

Results

For each of the two experimental conditions (i.e., no feedback and failure feedback) and each of the attributional styles (i.e., universal and specific), mean scores were calculated for reading performance efficiency and three measures of off-task thoughts (i.e., task-irrelevant thoughts, task-relevant thoughts, and mind-wandering thoughts). Means and standard deviations of performance efficiency and off-task thoughts by experimental conditions and attributional styles are presented in Table 1.

In order to address the first prediction, concerning performance of universal and specific attributors of failure in dissimilar reading tests under failure conditions, a 2 (universal attributors vs. specific attributors) x 2 (failure feedback vs. no feedback) analysis of variance (ANOVA) was used to analyze the data. The results demonstrated a significant difference between the performance of the subjects in the failure condition and the subjects in the no feedback condition [$F(1,33) = 8.5$, $p < .01$]. There was no significant difference between universal and specific attributors. The interaction between experimental conditions and attributional styles was significant [$F(2,33) = 5.7$, $p < .01$]. A Tukey Studentized Range (HSD) post-hoc comparison (with $p < .05$) showed that students in the no feedback condition performed better ($M = 2.42$) than students in the failure feedback condition ($M = -4.63$). Specific attributors performed better ($M = .94$) than universal attributors ($M = -3.16$), but not

Table 1. Experiment 1—Means and Standard Deviations of Performance Efficiency and Off-Task Thoughts by Experimental Conditions and Attributional Styles

		No Feedback		Failure Feedback	
Categories		Universal	Specific	Universal	Specific
Performance	M	2.97	1.86	-9.29	.03
Efficiency	SD	4.71	6.51	8.33	7.24
Task-Irrelevant	M	1.83	1.72	2.96	1.91
Thoughts	SD	.62	.53	.90	.56
Task-Relevant	M	2.06	2.54	2.42	2.70
Thoughts	SD	.45	.98	.41	.46
Mind-Wandering	M	4.22	3.67	6.33	3.56
Thoughts	SD	1.92	1.87	1.32	1.94

significantly so. Thus, the results tended to confirm the predictions that universal attributors would have higher performance deficits than specific attributors at the trend level and the failure condition had a significant effect.

In order to address the second prediction concerning off-task thoughts of universal and specific attributors in dissimilar reading tests, a *2* (universal attributors vs. specific attributors) x *2* (failure feedback vs. no feedback) analysis of variance factorial design was used to analyze the data. Separate two-way ANOVAs for each of the off-task cognitions were run to address each of the three predictions. The two-way ANOVA performed on task-relevant thoughts revealed no significant main effect or interaction. The two-way ANOVA for mind-wandering thoughts revealed a significant main effect for attributional style [$F(1,33) = 7.3$, $p < .05$). A Tukey-HSD post-hoc analysis ($p < .05$) revealed that universal attributors had more mind-wandering thoughts ($M = 5.28$) than specific attributors ($M = 3.61$). In addition, subjects in the failure feedback condition had more mind-wandering thoughts ($M = 4.94$) than subjects in the no feedback condition ($M = 3.94$), but there was no significance at the $p < .05$ level. The two-way ANOVA for task-irrelevant cognitions yielded a significant main effect for the experimental condition [$F(1,33) = 8.0$, $p < .05$] and attributional style [$F(2,33) = 6.2$, $p < .05$]. A Tukey-HSD post-hoc analysis ($p < .05$) revealed that subjects in the failure feedback condition had more task-irrelevant thoughts ($M = 2.44$) than subjects in the no feedback condition ($M = 1.77$). Similarly, universal attributors had more task-irrelevant thoughts ($M = 2.39$) than specific attributors ($M = 1.81$).

The results confirmed the second prediction that universal attributors would have significantly more mind-wandering and task-irrelevant thoughts than specific attributors. The results also showed that failure had a significant impact at the task-irrelevant thoughts and an impact at the trend level on the mind-wandering thoughts of both universal and specific attributors. Contrary to the prediction, neither failure nor attributional style had an impact on task-relevant thoughts.

In order to address the prediction concerning the influence of off-task thoughts on performance deficits in a dissimilar reading test following failure, Pearson correlation and regression analyses were carried out. The positive correlation between the three dimensions of off-task thoughts confirmed the trend that the change for all three dimensions was in the same direction. The correlation results of off-task thoughts and performance confirmed the prediction that off-task thoughts would have a detrimental effect on performance. Subjects who had more off-task thoughts performed worse than subjects that had fewer off-task thoughts.

The multiple regression analysis addressing the relations between the three off-task thoughts indicated that off-task thoughts accounted for 54% of the variance of performance deficits with task-irrelevant thoughts showing significance ($p < .01$).

Experiment 2: Methods

In order to test the prediction that performance deficits following universally-attributed failure would be reversed by discouraging subjects from engaging in off-task thoughts while solving unsolvable questions, Experiment 2 addressed four predictions under two conditions. In addition to the three predictions addressed in Experiment 1, Experiment 2 addressed also the fourth prediction that instructions aimed at restraining subjects from engaging in off-task thoughts would eliminate the detrimental effects of attributions for failure on performance on reading tests. The two conditions were (a) induction of universal attributions of failure without task-orientation and (b) induction of universal attributions of failure with task-orientation.

Subjects and Instruments

Subjects were 36 students in three other intact reading and study skills courses at the same upstate New York community college. The sample consisted of 19 females and 17 males ranging in age from 18 to 45 ($M = 22.7$). The instruments were identical to the ones used in Experiment 1.

Procedures

The procedures were similar to the procedures in Experiment 1. Based on the scores on the Attributional Style Questionnaire, the subjects were divided into two groups: universal attributors ($M = 2.3$) and specific attributors ($M = 6.2$) ($t = 7.03$, $p < .01$). Then subjects were divided into two experimental conditions: no-task-orientation and task-orientation. Subjects in the no-

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task-orientation condition received universal induction of failure by the same instructions as in Experiment 1. Subjects in the task-orientation condition, however, received additional instructions requiring them to justify their choice for each answer because this procedure had been found to prevent subjects from engaging in task-irrelevant thoughts (Kuhl, 1981; Mikulincer & Nizan, 1988). For each of the two experimental conditions (induction of universal attributions of failure without task-orientation and induction of universal attributions of failure with task-orientation) and each of the attributional styles (i.e., universal and specific), mean scores were calculated for reading performance efficiency and three measures of off-task thoughts (i.e., task-irrelevant thoughts, task-relevant thoughts, and mind-wandering thoughts). Means and standard deviations of performance efficiency and off-task thoughts by experimental conditions and attributional styles are presented in Table 2.

Table 2. Experiment 2—Means and Standard Deviations of Performance Efficiency and Off-Task Thoughts by Experimental Conditions and Attributional Style

		Universal Induction of Failure No-Task-Orientation		Universal Induction of Failure Task-Orientation	
Categories		Universal	Specific	Universal	Specific
Performance	M	-9.33	.29	9.59	4.63
Efficiency	SD	8.14	8.95	11.70	11.50
Task-Irrelevant	M	2.28	1.89	1.61	1.75
Thoughts	SD	.45	.66	.64	.55
Task-Relevant	M	2.60	2.23	2.24	2.40
Thoughts	SD	.95	.75	.74	.71
Mind-Wandering	M	5.00	5.49	3.78	4.00
Thoughts	SD	1.32	1.32	1.92	1.73

Results

In order to address the first prediction concerning performance of universal and specific attributors of failure in dissimilar reading tests under induction of universal attributions of failure without task-orientation and universal attributions of failure with task-orientation conditions, a 2 (universal attributors vs. specific attributors) x 2 (induction of universal attributions of failure without task-orientation vs. induction of universal attributions of failure with task-orientation) ANOVA was used to analyze the data.

The results demonstrated a significant difference between the performance of the subjects in the no-task-orientation condition and the students in the task-orientation condition [$F(1,33) = 10.57$, $p < .01$] and the interaction between experimental conditions and attributional styles was significant [$F(2,33) = 5.50$, $p < .01$]. A Tukey-HSD post-hoc analysis ($p < .05$) showed that students in the task-orientation condition performed better ($M = 7.11$) than students in the no-task-orientation condition ($M = -4.52$). Specific attributors performed better ($M = 2.46$) than universal attributors ($M = .13$), but not significantly so.

The experiment confirmed the predictions that universal attributors would not perform as well as specific attributors. Both groups performed significantly worse in the no-task-orientation condition than in the task-orientation condition; universal attributors not performing as well as specific attributors at the trend level. The prediction that reading performance deficits following failure would be eliminated under task-orientation conditions was confirmed.

In order to address the second prediction concerning off-task cognitions of universal and specific attributors in dissimilar reading tests, a 2 (universal attributors vs. specific attributors) x 2 (induction of universal attributors of failure without task-orientation vs. induction of universal attributions of failure with task-orientation) analysis of variance factorial design was used to analyze the data.

Separate two-way ANOVAs for each of the off-task thoughts were run to address each of the three predictions. The two-way ANOVA for mind-wandering thoughts revealed a significant difference between the experimental conditions for mind-wandering [$F(2,33) = 5.18$, $p < .05$). A Tukey-HSD post-hoc analysis ($p < .05$) revealed that students in the no-task-orientation condition reported significantly more mind-wandering thoughts ($M = 5.22$) than the students in the task-orientation condition ($M = 3.89$). The two-way ANOVA for task-irrelevant thoughts revealed a difference for task-irrelevant thoughts between the no-task-orientation condition and the task-orientation condition that approached significance [$F(2,33) = 4.09$, $p < .0528$].

The prediction that subjects in the no-task-orientation condition would have more mind-wandering thoughts was confirmed. The prediction that they would have more task-irrelevant thoughts in the no-task-orientation condition approached significance. The prediction about task-relevant cognitions was not supported. Further, universal attributors had more off-task thoughts than specific attributors in the no-task-orientation condition, but the same trend was not found in the task-orientation condition. This confirmed the prediction that the reversal of the reading performance deficits of universal attributors would be more significant than the reversal of the performance deficits of specific attributors.

In order to address the prediction concerning the influence of off-task thoughts on reading performance deficits in a dissimilar reading test following failure under task-orientation and no-task-orientation conditions, Pearson correlation and regression analyses were carried out. The correlation coefficients between performance and the three dimensions of off-task thoughts were determined. The correlation results of off-task thoughts and performance seemed to confirm the prediction that off-task thoughts would have a detrimental effect on performance. Subjects who had more off-task thoughts performed worse than subjects that had fewer off-task thoughts.

The positive correlation between the three dimensions of off-task thoughts confirmed the trend that the change for all three dimensions of off-task thoughts was in the same direction. The multiple regression analysis addressing the relations between the three off-task thoughts indicated that off-task thoughts accounted for 59% of the variance of performance deficits with task-irrelevant and mind-wandering thoughts showing significance ($p < .01$).

General Results

The basic prediction of this study was that elimination of off-task thoughts in reading tests would decrease the effects of attributions of failure for students who gave universal rather than specific attributions of failure for their performance. To address the basic prediction of this study, the results were analyzed across the two experiments. The results compared were: the control group which was the *no feedback condition* in Experiment 1 and three experimental groups which were: (a) the *no attribution of failure condition* in Experiment 1 (b) the *universal induction of failure condition* in Experiment 2, and (c) the treatment group which was the *task-orientation condition* in Experiment 2.

In order to address the prediction that universal attributors would perform worse on dissimilar reading tests than specific attributors, the results concerning specific attributions of failure and universal attributions of failure were compared. The results across all conditions confirmed the prediction that subjects who attribute failure to universal causes would perform worse than subjects who attribute failure to specific causes. In addition, both universal and specific attributors in the two experimental failure conditions had more performance deficits than subjects in the no feedback condition. In the treatment or task-orientation condition, both specific and universal attributors had fewer performance deficits than did the groups in the no-task-orientation condition.

The results across all the experimental conditions also indicated that subjects who attributed failure to universal causes engaged in more task-irrelevant and mind-wandering thoughts during reading tests than specific attributors in the control group or no feedback condition and the two failure conditions, but not under the treatment or task-orientation condition. In addition, both universal and specific attributors had more task-irrelevant and mind-wandering thoughts under the two failure conditions than in the control group or the no feedback condition and the treatment group or the task-orientation condition. There was one exception to this trend: specific attributors in the no-attribution condition had fewer mind-wandering thoughts than the specific attributors in the control group or no feedback condition and the treatment or task-orientation condition. Contrary to the prediction, task-relevant thoughts were not more prevalent among universal attributors than among specific attributors.

For the prediction that subjects who have more off-task thoughts would perform worse, the findings were, in general, supportive. There was a higher negative correlation between task-irrelevant cognitions and performance deficits in both failure conditions ($r = -.68$ and $r = -.65$) than the control group or no feedback condition ($r = -.40$) and the treatment group or task-orientation condition ($r = -.31$). Contrary to the prediction, correlations between task-relevant thoughts and performance deficits were found lowest in one of the failure condition (no attribution) ($r = -.11$) and the highest in another failure condition (universal induction of failure) ($r = -.61$).

Further, the multiple regression analyses showed that the three dimensions of off-task thoughts accounted for between 49% and 63% of the variance of the performance deficits in both failure conditions, with task-irrelevant thoughts and mind-wandering showing consistent significance. These results were in line with the basic prediction that instructions aimed at restraining subjects from engaging in off-task thoughts would be successful in reducing the performance deficits of universal attributors rather than specific attributors.

Discussion

The results of both experiments confirmed the major prediction that the elimination of off-task thoughts in reading tests would affect the attributions of failure for students who are universal rather than specific attributors of failure. These findings are basically consistent with Mikulincer and Nizan's (1988) results. Both studies found evidence that under failure conditions, universal attributors performed worse than specific attributors and that the conditions of failure had an impact on performance.

The salience of the two experimental conditions, however, was reversed in the two studies. In Mikulincer and Nizan's (1988) study, the effects of attributional style were more powerful than the effects of failure, while in the present study, the effects of failure had a more profound effect than the attributional styles. In Mikulincer and Nizan's (1988) study, the difference in performance deficits between universal and specific attributors was significant and, in the present study, it was at the trend level. On the other hand, in Mikulincer and Nizan's (1988) study, the effects of the experimental conditions of failure on test performance were not always significant. For example, in Experiment 2 in Mikulincer and Nizan's (1988) study, only the condition of universal failure without task-orientation had a significant impact on performance. In the present study, the effects of the experimental conditions of failure were significant across all conditions. It could be that in the present study, the effects of the failure conditions were more powerful than the effects of attributional style of the subjects because in the context of the study, the experimental tests were associated with real college testing situations. This association with real tests might explain why the performance of both universal and specific attributors was strongly affected.

A further inconsistency between the findings of Mikulincer and Nizan's (1988) study and those of the present study was related to the impact of task-relevant thoughts on performance deficits. Mikulincer and Nizan found that task-relevant thoughts had an impact on test performance deficits following failure which was similar to the impact of task-irrelevant and mind-wandering thoughts. In the present study, however, task-relevant thoughts had little impact on reading performance deficits following failure. This inconsistency might be explained by the different ways the sense of failure was induced in the two studies. In Mikulincer and Nizan's (1988) study, the sense of failure was induced primarily by the experimenters' telling subjects they failed.

In the context of Mikulincer and Nizan's interpersonal failure, task-relevant thoughts are still considered task-irrelevant or off-task in the sense that they are not efficient, task-oriented self instructions. For example, worrying about one's performance is task related but not task-relevant because it does not promote efficient performance (Mikulincer & Nizan, 1988). In the present study, however, the students' perception of failure was induced by the reading task. Possibly, in a reading task-based failure, some of the off-task thoughts, which are task-relevant, can become a call for positive action by changing some of the detrimental effects of failure into a situational challenge (Meichenbaum & Butler, 1980). These speculations, however, should be addressed in future studies in other educational environments.

Implications

The current study found that instructions to restrain off-task thoughts reduced performance deficits in reading tests. This finding provides evidence that affective deficits can be alleviated by the manipulation of off-task thoughts. Elimination of the detrimental effects of off-task thoughts appeared to improve cognitive functioning in reading tests.

To date, practical solutions to problems in reading education have been in terms of anxiety reduction techniques such as instructions to direct irrational thoughts into alternative rational thoughts (Rathus & Rathus, 1991; Suinn & Deffenbacher, 1988) and using muscle relaxation (Wolpe, 1973) or diaphragmatic breathing (Harvey, 1978; Rathus & Nevid, 1977). The findings of the present study (i.e., that the practice of questioning one's hypotheses for the choice of one's answer enhances reading test performance) provides the basis for a simpler and more functional solution to reduce affective deficits. The current study provides support for the use of multiple choice tests which incorporate instructions directing students to explain why they have chosen a particular answer. These instructions would help students overcome their attributions of failure because they would guide students to channel negative thoughts caused by perceptions of lack of control, worry, and anxiety to test-related tasks.

Since this study was conducted with a specific group of subjects, the results have to be treated with caution. The subjects in the study represent a population of readers which can be described as one in need of reading remediation and anxious about their reading performance because of past failures. Given this fact, future studies should address the impact of failure on reading test performance by gender, age, culture, reading proficiency, and cognitive style.

Ideally, the definition of "reading test performance" would include all the physical, cognitive, and affective variables believed to influence reading tests (Mosenthal, 1984). In reality, however, research deals with partial specifications of constructs. As a result, the explanation of the construct of reading test performance in terms of the excuse, anxiety, and attribution theories does not exclude explanations of the construct based on other theories, such as metacognition or schema theory. Future research could investigate the possibility that the negative effects of off-task cognitions on reading test performance could be one of the reasons for the readers' inability to access their schemata or the effective use of their metacognitive awareness in addition to a variety of other factors related to readers, materials, administration procedures, and settings.

The results of studies which investigate those links could further expand the definition of the construct of reading test performance. These studies, together with other future studies, should provide information about the effects of perceptions of failure on reading test performance and would potentially open avenues for study of the effects of other affective factors on reading test deficits which would increase the construct validity of tests. Cross and Paris (1987) claim that the construct validity of tests would be greatly increased if it was acknowledged that reading test performance is complex and depends on a multitude of cognitive, social, and affective factors. In short, from the knowledge gained from this study and future studies, more effective assessment tools could be developed which could be integrated in "a two-tiered approach to assessment reform that addresses the adequacy of current practices while also developing innovative assessments for the future" (Paris et al., 1991).

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COLLEGE STUDENTS' PERCEPTION OF EFFECTIVE AND INEFFECTIVE LITERATURE INSTRUCTION

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Abstract

Research on how to teach literature has typically focused on debates among scholars about the role of text in the interpretive process. To date, little research attention has focused on how students—those who read texts—view the teaching of literature. This article analyzes results of a qualitative study in which 26 members of one college freshman composition classroom were asked to recall "best" and "worst" literature classes. Participant recollections revealed striking similarities in their perceptions of effective and ineffective instruction which have significant implications for the teaching of literature.

Introduction

For much of this century, English teachers have argued among themselves about how literature ought to be taught. Most of these arguments have focused on the nature of text in the interpretive process (Applebee, 1974). Those who regard the text as immutable ask students to extrapolate what they believe to be its indigenous meaning. Those who regard the text as organic ask students to construct what they believe will be a unique meaning (Cooper, 1985).

Curiously, students have rarely been asked to share their perceptions of how literature ought to be taught. Some studies have analyzed students' beliefs about effective instruction and their attitudes towards school reading instruction, but no studies have focused specifically on beliefs or attitudes about literature instruction. The voices of students—those who are most directly affected by instructional paradigms—might add new dimensions to the traditional reader-text debate. They might, in fact, help reframe it.

This article will share the results of a qualitative study in which 26 members of one college freshman composition classroom were asked to recall best and worst literature classes. Analysis of these recollections revealed striking similarities in the students' perceptions of effective and ineffective instruction.

Research Design

Site and Participants

The site for this study was the researcher's own literature-based English composition class at a large midwestern university. The 26 student participants brought eclectic academic and personal histories to the study. Three had entered the university with low ACT scores and had spent an extra semester in a developmental composition course; five had entered with high ACT scores and had been excused from the expository prose course; two were repeating the course; one was an upper classman who had transferred from another university; three were students who had recently returned to school after dropping out for a time; one was a non-traditional female in her mid-twenties who had delayed higher education until after marriage; two were a foreign-born brother and sister attending an American university for the first time. The remaining six were second semester freshmen who had entered the university directly from high school and were following the standard freshman composition timeline. Twelve of the 16 students were females; 14 were males.

Research Questions

Data collection and analysis was guided by two research questions: 1) What similar characteristics describe students' recollections of best and worst literature classes? 2) What do these collective patterns indicate about students' perceptions of effective and ineffective literature instruction?

Methodology

A qualitative case survey design was used to identify and categorize benchmark characteristics emerging from student recollections (Merriam, 1988). In a qualitative case survey, researchers narrow their investigation to one phenomenon, reviewing data solely for manifestations of that phenomenon. Case survey differs, therefore, from much qualitative research in that its scope is narrow: rather than look at multiple dimensions of one situation, it focuses on a single question. But, like all qualitative research, case survey does not test a prearranged hypothesis. Instead, the researcher looks for pertinent patterns in the data.

Qualitative case surveys also use data from case studies that "have already been conducted and are available to the researcher" to "answer new questions or confirm new interpretations" (Merriam, 1988, p. 156). For this study, two pieces of data were extrapolated from a semester-long research project tracking student literacy behaviors in a response-based classroom (Newton, 1992).

In audiotaped interviews, students were asked "What was the best literature class you ever had. What made it the best?" and "What was the worst literature class you ever had? What made it the worst?" Each interview was conducted by one of four researchers, all former or current doctoral students with concentrations in some facet of literacy studies. Interviews ran from 20 to 30 minutes.

Interviewers were asked to pose questions in an open-end form in order to put "a minimum of restraint on the answers and their expression" (Kerlinger, 1986, p. 442). Each participant was informed that interviews would not be made available to the researcher, their classroom instructor, until after semester grades had been filed. This was to free students from concern that their academic status might be influenced by any responses.

All interviews were transcribed and each case reviewed for statements relevant to the research questions. Such statements were recorded on an unordered meta-matrix or "master chart;" related data also were juxtaposed (Miles & Huberman, 1984, p. 152). After all cases had been completed, the matrix was analyzed for any characteristics appearing across cases. These were grouped together in a summary table from which superordinate categories of perceived effective and ineffective instruction emerged (Miles & Huberman, 1984). Two colleagues, one in English and one in literacy education, provided peer examination of the findings (Merriam, 1988). They examined data and analyzed the meta-matrix and summary tables. Both agreed that the categories developed were supported by the data.

Results

All 26 students chose to describe classes either in high school or the first semester of their college freshman composition sequence. No particular school year or curricula (e.g., American literature, fiction) were cited with greater frequency. Surprisingly, few students mentioned any content that was covered in either best or worst classes. Two students recalled that they had read "a lot of really good books" in their favorite courses, but they did not discuss any specific genres or writers or literary/historical periods covered as part of the criteria for best/worst literature classes. Furthermore, specific references to literary texts were few and cited primarily to illustrate a teacher behavior (e.g., "[we] just read the *Odyssey* for quizzes and that was it. And . . . all we did was learn all the Greek names and stuff like that.") There were also marginal references to literary text as an opportunity for self-growth or class participation.

All 26 participants indicated that their attitudes about the content of literature were largely influenced by various teacher behaviors. Some noted that an indifference or dislike of literature had been overcome because of positive feelings about a particular teacher. Conversely, others believed their early enthusiasm for literature had been dampened by negative feelings about a teacher. All participants would probably agree with Sharon's comment about best and worst classes: "mostly it reflects the teacher."

Collectively, students cited a total of 83 characteristics of best and worst classrooms. From these, two superordinate categories of teacher behavior emerged: 1) those behaviors related to the subject of literature (Figure 1) and 2) those behaviors related to students (Figure 2).

Subject-Related Teacher Behaviors

As indicated in Figure 1, the subject-related behavior occurring most frequently in "best" literature classrooms was a belief among participants that the teacher had presented them with positive and realistic challenges. Diane noted that in her favorite class you had "to inquire more on your own and think things through and find the answers yourself." Teachers' enthusiasm for literature and their impressive knowledge of subject matter were also noted.

Figure 1. Subject-Related Teacher Behaviors, in Order of Cited Frequency (Most to Least)

Characteristics of "Best" Literature Classes

provided realistic/positive challenges
displayed enthusiasm for subject
demonstrated impressive knowledge of material

Characteristics of "Worst" Literature Classes

assignments repetitive and meaningless
indicated only one correct interpretation of text
did not vary lecture style

Note: Items marked with brackets were cited with the same frequency.

In "worst" literature classrooms two behaviors were cited most frequently. One—the antithesis of "best" classrooms—was a belief that learning tasks were meaningless. Jennifer complained of daily quizzes "about real nit-picky things in the text. . . . You know, when I read through something I have the basic idea and I can remember a lot of stuff but not like what color Pip's pants were in the thing." Another was the teachers' belief that theirs was the only correct opinion about or interpretation of a literary text. Christina explained that the teacher

> would tell you "Well, this is how this happened, and this is why this happened, and this is what this person was thinking." And I could never understand how somebody could know what somebody else is thinking, especially somebody who has been dead for how many years? But when he was alive, was he thinking this? How do you know that?

Micki noted that "We had to read, I don't know, eight novels, and you know, we didn't get to voice our own opinion." Dinah observed that in high school "I just felt like I was reading for them, that I was just regurgitating information for them to grade."

Students also mentioned that they believed poor teachers were "boring" because they did not vary their lecture style. Cory recalled, "He came in with a set of notes and he would teach strictly from that. He wouldn't go off the subject or anything to elaborate on points."

Student-Related Teacher Behaviors

As seen in Figure 2, numerous student-related behaviors were cited. Two behaviors were most frequently cited in "best" classrooms: encouraging students to express personal opinions and to interact with peers. For some participants, these were opportunities to develop and share their own ideas. Ada's best class offered "freedom of speech and thought." In other courses, she added, "You could *have* the freedom of thought, but you couldn't *use* it." Similarly, Jennifer commented:

> Sometimes teachers will tell you like what you're supposed to think of this because of this, this and this. And [if you give your own] opinion you know, like well that's wrong. And it's not necessarily wrong because that's the way that I look at literature. It's how different people interpret it. Maybe the author had a basic idea, but you know everyone can see things a little bit different.

Figure 2. Student-Related Teacher Behaviors, in Order of Cited Frequency (Most to Least)

Characteristics of "Best" Literature Classes

- encouraged expression of personal opinions
- fostered peer interaction through open discussions
- approachable/accessible
- provided useful feedback on papers/in discussions
- no appearance of favoritism
- showed concern for students
- shared personal anecdotes/opinions

Characteristics of "Worst" Literature Classes

- provided no/little/poor feedback
- not approachable/accessible
- did not communicate well with students
- degraded or embarrassed students
- appeared to favor some students over others

Note: Items marked with brackets were cited with the same frequency.

In her favorite class, the teacher always asked students "how you felt" about the texts they read.

Greg recalled the value of free discussion in his favorite class, noting that "You get other people's ideas . . . and everybody's got something to say. And sometimes somebody will get some insight, you won't expect it from them . . . but they might come out with some insight that you never saw." Likewise, Christine said that open group participation allowed students to "talk about—actually in some cases fight about—why you think what you think, and they think what they think. And it's kind of like a debate." She noted that this approach not only "makes it interesting" but helped her "remember the literature": "You remember what you read, and you remember what you thought about it, and you remember what everybody else thought about it."

In "best" literature classrooms, teachers were also perceived as accessible and providing useful feedback to students. Josh praised one teacher for interacting "on a basis of student to student, like, not student to teacher. It's like she talks more to you, not to the board." Dan was impressed by a teacher who asked the students questions "to make sure everyone understands what they're doing and they're reading" and to "offer help."

Several participants remarked that their favorite literature teachers helped them overcome specific learning hurdles. One recalled a teacher who continued to critique her English papers even when she was no longer in his classroom. Teachers who were "caring," "concerned," and "did not play favorites" were also viewed as effective teachers of literature. Finally, Dan enjoyed the personal anecdotes his favorite teacher shared: "She tells you a story . . . If you say something that happened in your life, it reminds her of something that happened with her."

Again antithetically, the most common student-related behavior of teachers perceived to be ineffective was their failure to provide students with useful feedback. Most of these comments focused on participants' frustrated efforts to earn good grades. Ada noted "I was always worried about my grades . . . She was always telling me, 'There's potential there . . . [but] you're being too personal in your approach to discussing it . . .'" Sharon recalled a teacher who "walked into class and graded our papers, put a letter at the top and wrote like you know, 'Not enough explanation,' you know or things like that . . . She was not a lot of help." Similarly, Kim explained:

> We wrote our first paper and I got a D on it and I went up and I said, "What?" You know I just had no, I'm like "Where did this D come from?" because I had worked two weeks on that paper, you know, and I'm expecting an A. And she said, "Well, your ideas don't stick to the topic." I said, "What do you mean? . . ." And she goes, "Well I don't think it relates to it." I said, "Well I do and I supported why I do." And she just couldn't see that. And then she told me I didn't know how to write.

Josh's plaintive statement echoes most of the comments in this category: "I spent a lot of time on them [essays], and she would be like, she'd just rip them apart, piece by piece."

Not surprisingly, descriptions of perceived ineffective instruction always related teacher approachability and/or accessibility to students' academic needs. Don's complaint is typical: "She didn't talk to you directly . . . She kind of talked to certain people or just the whole class. So you kind of didn't get special help if you needed it, if you were behind in something."

The remaining student-related behaviors involved oral communication skills. Some participants found ineffective teachers were unable to make task requirements clear. Others found them lacking in social grace. Greg described a teacher who "had a tendency to try to make herself sound funny, but she never could." Bob remembered one who had "a really negative attitude towards students in general, I think, and that really came out in our class time. Because he even went as far as to call us names during class." Three of the students recalled teachers who had degraded or embarrassed them before their peers. Finally, a few teachers perceived as ineffective were those believed to favor some students over others.

Discussion

Although results of this study are limited by the small number of participants, they do corroborate several significant findings of earlier research on college student attitudes towards reading in school. First, it is the teacher, not the topic, that makes the difference. In a poll of 420 undergraduates who had enrolled in an elective developmental reading course, Nelson (1983) found that most participants believed the "major influence on students' reading ability is the teacher" (p. 1).

Similarly, in an interview of 223 graduate and undergraduate students, Callaway (1981) found that "the nature of the material appeared to make much less difference than the way the teacher dealt with that material" (p. 215). He noted that "teacher encouragement, praise and interest" were significant factors in student attitude (p. 215). In this study, both "best" and "worst" literature classrooms were wholly linked to teacher behaviors. Neither the reading events—central to any literature course—nor specific texts, genres, authors or curricula were recalled by students.

Nelson (1983) also found that free reading followed by class discussion was the preferred pedagogical technique, although most students still maintained that "it is the teacher who makes the difference in the long run" (p. 13). Nelson (1983) recommended that teachers combine "compassion and care" with student "freedom to read and freedom to discuss what they read" (p. 13). Similarly, teachers who invited interactive and open discussion were regarded as effective literature instructors by students. Teacher concern was also identified as an important student-related behavior.

In a study probing the impact of social influence on the reading and literary response processes of four high school seniors, Hynds (1989) found that students responded well to teachers who "were willing to act as 'colearner' in the process of literary analysis" (p. 57). All students in Hynds study found their attitudes marred by the "constraining influence of constant evaluation" and by teachers "who had ignored or criticized" their interpretations (p. 57). This mirrors one of the most frequently cited teacher behaviors regarded as ineffective by participants in this study: a belief among teachers that theirs was the only correct interpretation of a text. Conversely, encouraging students to express personal opinion was viewed as one of the most effective teacher behaviors.

There are also striking parallels between these students' attitudes towards the study of literary text and what research seems to be indicating about effective instruction in general. For example, in an article on developmental students' perception of effective instruction, Padak and Padak (1990) review a number of studies in which similar teacher behaviors are cited as central to students' learning experience. They cite "respect for and availability to" students and "encouraging independent thinking" as integral features of effective instruction (Padak & Padak, 1990, p. 170).

Conclusions and Implications

Mayher (1990) notes that language arts educators have naively assumed that "elementary teachers teach children and secondary teachers teach a subject" (p. 288). Not surprisingly, then, the pedagogical debate among English teachers has largely concerned itself with the subject: how literary texts should be analyzed. But literature-as-subject was not predominant in student perceptions of best and worst classrooms. Instead, it was the relationship between teachers and readers interacting in a classroom context that dominated students' recollections of effective and ineffective instruction.

"Best" teachers, for example, were student-centered: they knew their students well enough to design learning opportunities that were appropriate and meaningful for them. Conversely, "poor" teachers gave assignments which were personally meaningless to students. Perhaps, then, English instructors should examine developmental and literacy learning theories for pertinent insights into how human beings learn and how teachers can facilitate that learning. While these theories have long been important in elementary teacher education programs, they have had less impact on literature pedagogy at the secondary level and above.

Some schools of literary criticism (e.g., reader-response) have, in fact, drawn on the findings of learning theorists such as Piaget and Vygotsky. They have also drawn on psycholinguistic and transactive research in reading that demonstrates how learners construct meaning from print (Smith, 1988; Goodman, 1969, 1976; Rosenblatt, 1978). Consequently, new perspectives on the roles of text and reader in the literature classroom are beginning to challenge tenets that have long dominated literature instruction. Emig (1990) believes that "learning about learning" quite naturally offers English studies a "redefinition of theory that organically brings our students into the dialogue" (p. 89). She notes that "a developmental perspective provides the foundation for far greater success" and that lack of such knowledge "offers explanations for the failures we are experiencing in our attempts to introduce and to sustain the teaching of literary critical theory" (Emig, 1990, p. 89).

In addition, Bloome and Green (1984) note that "what is learned and who learns it is linked to the nature of the classroom context created by teacher-student and student-student interactions" (p. 406). In this study, many participant recollections focused on interactive classroom experiences: "best" classrooms invited frequent and open peer discussions. Teachers who were perceived as accessible promoted learning; those who were not accessible inhibited learning.

Thus it appears that literature teachers should focus special attention on what Langer (1991) terms the "sociocognitive context of schooling" i.e., the "goals and values of the classroom discourse community" (p. 1). Furthermore, they should implement instructional practices which deliberately recognize the power of these interactions within a classroom community. Currently, for example, many elementary school teachers have adopted whole language teaching methods (e.g., literature circles, buddy journals) which invite students to share their beliefs. These practices, however, are still uncommon in English literature classrooms.

Finally, as teachers explore how students learn, they must also re-examine their own roles within the classroom community. When Bugeja (1992) asked 80 college students, "What was your opinion of poetry in the fourth grade and how, if at all, has it changed?" almost half of the students thought that "poetry was exciting until a teacher made a value judgment about their intellect, based on their explication" (p. 32). Similarly, this study found that teachers who lectured exclusively and believed theirs was the only correct opinion about a text were often perceived as ineffective by their students.

Such teachers epitomize what Freire has called the "banking metaphor" of education, or a belief that knowledge is deposited by a teacher and withdrawn by a student (Freire, 1970). It is based on a belief that the "function of schooling is to transmit knowledge and skill from expert practitioners to the young" (Mayher, 1990, p. 19). This "transmission" model of teaching has dominated literature instruction in American classrooms for most of the century. But results of this study suggest that teachers must consider new instructional models in which they are mediators and facilitators, rather than mere arbiters of correct interpretation.

Langer (1990) has noted that "virtually no research" in recent years has examined the curricular objectives and instructional methods of literary study (p. 812). This omission is particularly evident in university literature classrooms, where issues of effective instruction focus solely on the analytic procedure of textual interpretation. If, however, more student voices are brought into pedagogical discussions of how literature ought to be taught, perennial debate about the nature of text may begin to fade. Central to this debate is really the issue of who rightly owns the interpretive process: teacher or student. And that issue brings into focus a most compelling question: What are the true goals of literature instruction?

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TEACHER EDUCATION AND LITERACY

Using Videodisc-Based Cases to Promote Preservice Teachers' Problem Solving and Mental Model Building

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Abstract

The purpose of this study was to examine preservice teachers' mental representations of learning and teaching and the possible facilitative role of videodisc case methodology on these teachers' knowledge acquisition. Provided is a description of how preservice teachers and practicing teachers analyze and respond to authentic teaching problems presented in a written case study. Results related to preservice teachers' developing problem-solving abilities and mental model building are presented. Implications for teacher preparation programs conclude this paper.

Background

Research conducted over the last decade examining factors contributing to effective teacher education provides compelling reasons for reforming teacher preparation programs (Berliner, 1985; Clandinin & Connelly, 1986). Goodlad (1990), for example, suggests that teacher education programs do not adequately prepare future teachers for the realities of complex classroom situations. Further, he argues that teacher educators have made little progress in responding to the critics of the 1960s (e.g., Sarason, Davidson, & Blatt, 1962) who indicated that teachers often have difficulty connecting information learned in teacher preparation programs to information needed for evaluating and responding to problems and unexpected situations in the classroom.

Calls for reforming teacher education have contributed to at least two movements within the field of teacher preparation. One goal is directed toward a better understanding of how preservice teachers develop and use their knowledge to understand and interpret teaching and learning in classrooms. A second goal is the revision of methodology courses in ways that invite future teachers to investigate and respond to authentic and situated classroom events and problems.

Research conducted during the last decade has focused on an analysis of teachers' thinking and its relationship to decision-making for classroom teaching (Copeland, Birmingham, De Meulle, D'Emidio-Caston, & Natal, 1994; Lundeberg & Fawver, 1993; Shavelson & Stern, 1981; Shavelson, Webb, & Bursteen, 1986; J. Shulman, 1992). Researchers such as Clark and Peterson (1986) have taken a stance in favor of descriptive, rather than prescriptive approaches to studying how preservice teachers think about teaching and learning events, and advocate studies that examine and describe teachers' understanding of instructional problems and the knowledge sources that both preservice and practicing teachers draw on to influence their thinking. It is the belief of such researchers that any reforms of teacher preparation programs must be predicated on a well-developed information base that documents how knowledge about teaching is constructed.

Some researchers, such as Peterson and Comeaux (1987), support cognitive schema theories to suggest that multiple and diverse experiences in classrooms relate specifically to experienced teachers' complex understandings of instruction and children's learning. These researchers explain that increased experiences in the classroom become the cornerstone on which teachers rely to interpret and respond to classroom events (Repo, 1987; Copeland, et. al., 1994). Indeed, descriptions provided by these researchers of "novice" and "expert" teachers' responses to situated problems indicate that the decision-making of these two groups differs according to amount and level of classroom experiences. Copeland and his colleagues (1994) recently expanded on schema-theoretic notions of teacher development by proposing that knowledge of teaching is not only influenced by multiple classroom occurrences but that it also appears in different stages during teachers' professional development.

Even though teacher educators are interested in knowing how beginning teachers change from inexperienced problem solvers to experienced teachers who can draw upon multiple resources to respond to classroom problems, such changes are not well documented. Given the influence of cognitive-schema perspectives on the thinking about how teachers' knowledge develops, it seems extremely important to know more about how schema are modified and how these modifications affect preservice teachers' understanding of learning and instruction. Almost a decade ago, Shulman (1986) suggested that research should move beyond an identification of cognitive processes of teachers to the identification of the knowledge these teachers draw on to comprehend, analyze, and resolve classroom problems.

In previous papers, my colleagues and I have proposed that anchored instruction coupled with case methodology is one way to involve future teachers in the analysis of problems confronting teachers and to help them recognize similarities between information learned in college classes and information required for successful teaching in real classrooms (Risko, 1991; Risko, 1992; Risko, Yount, & McAllister, 1992; Risko, McAllister, Peter, & Bigenho, 1994). Anchored instruction, designed to foster a learning environment where the student is the producer of knowledge rather than a passive recipient, emphasizes generative learning activities, cooperative learning, and problem-oriented activities. Anchored instruction is a process-oriented approach that situates learning in realistic problem-solving environments. Cooperative learning and active participation in the analysis of multiple sources of relevant information are encouraged (e.g., Risko with Cognition and Technology Group at Vanderbilt, 1993). Our goal for instruction in our reading methods courses is to situate learning in the exploration of interesting and realistic classroom events to encourage active construction of knowledge. We have developed narrative cases, recorded on videodisc, of classroom situations. These are designed to create contextual learning to help preservice teachers and the college instructor mediate each others' learning while analyzing case content.

The videodisc cases represent authentic problems that classroom teachers face and serve as anchors or rich informational contexts for teaching and learning (Risko, 1991; Risko, Yount & McAllister, 1992). To date we have developed 8 cases that contain various forms of naturally-occurring classroom events (e.g., teacher-student interactions, teacher questioning, student participation in reading and writing activities) that demonstrate the complexity embedded in reading instruction. These video cases were recorded in actual elementary classrooms in grades 2, 4, and 6, and resource and Chapter 1 classrooms.[1] Each case focuses on one classroom and demonstrates how a teacher develops what he or she defines as a "unit" of literacy instruction. Urban, suburban, and rural settings are respresented.

Each case is 60 minutes long and begins with a 12-16 minute connected video story that illustrates how a unit of instruction develops over time. The remainder of each case contains supplementary classroom scenes, student-teacher conferences, and interviews with the parents, children, teachers, and principals. Four cases display classroom reading instruction and are used in our developmental reading methodology course. The other four cases focus on instruction for students experiencing reading problems (within inclusion and pull-out classrooms) and are used within our remedial reading methodology course. The video cases are supplemented by related text readings and case information (e.g., teachers' lesson plans, children's writing and assessment protocols) to provide a comprehensive study of the teachers' planning and instruction and the students' reading abilities and problems.

These videodisc cases are sufficiently complex to allow for sustained problem solving over multiple lessons and to encourage students to examine information from multiple perspectives allowing them to form rich mental models (e.g., Johnson-Laird, 1983) of the problem domain.

Taking advantage of the rapid, random access and freeze-frame capabilities of videodisc technology (contrasted to the linear presentation of videotape information), the professor and students often reexamine scenes and cases for different reasons and to access information that is difficult to describe in written or verbal accounts (e.g., teachers' nonverbal cues). Hypercard software is used to enhance the effectiveness of instruction. This software, published by Apple Computers, Inc., allows access to multiple sources of computerized text files. We organized our files to provide a main menu that facilitates access on the computer to a wide range of factors (e.g., text characteristics, instructional history, teacher and student beliefs/attitudes) that may contribute to the study of the case content. Such technology supports the use of videodiscs to facilitate case analysis from different viewpoints and to encourage multiple connections between text and video information.

Multiple data sets, collected across several semesters, are being analyzed to evaluate this approach on our students' learning and ability to solve novel problems. In one previous study (Risko, Peter, and McAllister, 1994), we implemented a case study analysis to document the learning of three students enrolled in our remedial reading methodology course where our case methodology was implemented. Our analysis included an intensive study of the conversational patterns of these three students during class discussions, an examination of written lesson plans and observations, field notes, and an examination of journal and interview data. This analysis allowed us to make inferences about how knowledge is constructed and communicated in our college classes. Our results led us to hypothesize that the case-based learning described above greatly enhanced our students' ability to draw on a number of knowledge sources to solve problems when they were teaching in a practicum setting. Further, the complexity of our videodisc cases helped students integrate course information even earlier than expected.

Building on this previous investigation, the primary goal of the current study was to investigate further the facilitative role of the videocase methodology on students' acquisition of multiple perspectives about teaching and learning, and explore how they used this information to resolve specific instructional problems. An examination of the preservice teachers' mental representations of learning and teaching was conducted by comparing the thinking of "experienced" teachers (graduate students) and the preservice teachers (undergraduate students) when these teachers were asked to analyze and respond to written case information. Central to the goal of this study was an effort to understand how preservice teachers' understanding of classrooms and learning was influenced by our form of case methodology and to compare their thinking with the thinking of experienced teachers.

Method

Setting and Participants

This investigation was conducted in a section of an undergraduate course entitled *Remedial Reading and Practicum* and a graduate course entitled *Remedial Reading*. Enrollment in each course was 16 and 14, respectively. All students in the undergraduate course were seeking initial certification and all of the graduate students were completing a Masters' Degree in Language and Literacy and had completed two to ten years of teaching. Students in both courses previously or concurrently completed a developmental reading methodology course either at the undergraduate or graduate level depending on their student status.

Instruction in the Two College Classes

Each course was taught by the researcher. Students in the undergraduate course met on campus for the first seven weeks of the semester and participated with the instructor as a whole class in the analysis of the videodisc cases. The four cases focusing on remedial instruction were used to explore instructional situations that occur in classrooms and special pull-out programs. Each case contained naturally occurring classroom events which demonstrated multiple factors contributing to literacy problems and the instructional strategies implemented to ameliorate these problems. The video cases were supplemented by related text readings and case information as described previously. For the next five weeks of the course, each student tutored a child experiencing reading difficulties in a practicum at a local elementary school. During the last week, the students returned to campus and followed a case-study format to share information about their tutoring.

Students in the graduate course met on campus for the entire semester. About half of the students completed a practicum in addition to the course. For eight weeks, students who elected the practicum tutored children experiencing reading problems. Students in this course examined and responded to multiple text readings and the video cases. Class discussions focused on the examination of factors contributing to reading problems and appropriate instructional methods. Content in both classes was similar and engaged students in the analysis of "real" problems children and teachers experience.

Data Collection

Following a procedure used by Lundeberg and Fawver (1993), the data collection occurred in two stages. First, a pre- and post-class activity required the students in each course to analyze a written case on the first day of class and on the last day of class. The case contained information about a middle school student who had a history of reading problems. Included in the information was the student's school history, interview and observational data, a description of the student's current literacy instruction, and data collected on multiple reading and writing assessments. Specific solutions or suggestions for responding to the student's problems were not presented. For both the pre- and postcases, students were given one hour to complete their analyses. To analyze each case, the students responded to directives that asked them to (a) indicate what they noticed in the video segments corresponding to the target case, (b) explain and justify their beliefs about how the target teacher defined reading, (c) describe the child's participation in the reading/writing process, and (d) explain what they thought the child was learning about reading and writing.

Second, after completing the case analysis at the end of the course, students were given an additional assignment. The students reread their pre- and post-case analyses and compared the two using a set of questions to guide their written responses. These questions required them to compare (a) issues and perspectives that they generated during the study of each case, (b) theories and perspectives they considered during their analyses, (c) decisions they made for each case, and (d) sources of information used to analyze each case. All written responses across these tasks were examined. Students were given an additional hour to complete this comparison.

Analysis

Data analysis was conducted within the tradition of qualitative research in which an interpretative stance guides the data analysis (i.e., Atkinson, Delamont, & Hammersley, 1988; Firestone, 1987; Jacob, 1987, 1988). Analysis of the case data was based on the constant comparative method (Bodgan & Biklen, 1982; Glaser & Strauss, 1967). Data were analyzed by three independent reviewers. The interpretation of data occurred in two stages. The first stage involved an analysis of the data from each individual's pre- and post-course protocols. The initial analysis was used to inform subsequent analysis. In the second stage, a cross-protocol analysis was conducted to identify information that was present across protocols. Patterns, categories, and themes that emerged from the data sets were continually sorted and compared to provide a means for cross-data analysis and a comprehensive interpretation of student responses.

Results

Three patterns emerged from the examination of the 30 protocols. Across these patterns was the general finding that these two groups were similar on some aspects of the analysis and different on others. Both groups were similar in that they each made substantial progress from the pre- to post- case activity in their ability to analyze and interpret the problems embedded in the case. Differences between the thinking of the two groups involved (a) the number of perspectives taken to analyze case-specific information, with the experienced teachers displaying more viewpoints to guide their thinking for both the pre-case and post-case activities; and (b) the ability to provide theoretical support for perspectives and recommendations, with the graduate students outperforming the undergraduates in their ability to provide theoretical reasons for their decisions.

The three patterns, which were documented consistently across the data sets, are presented in the following paragraphs to illustrate how teachers from both groups developed knowledge and used a wider array of information sources to guide their thinking, and how the teachers differed in their approach to some aspects of the case study task.

Developing Multiple Perspectives to Interpret Case Problems

On the pre-case analysis, the two groups of teachers approached the task quite differently. The preservice teachers focused on one or two factors (e.g., parents' conflict with the school, vision problems) to account for the multiple literacy problems the case student was experiencing. For example, one preservice teacher indicated that Jack seems "to be a typical twelve year old who happens to have a reading disability." She went on to say that his problem was the result of "no one in his life made reading come alive, and therefore, he did not enjoy it . . . or see any meaning in it." She recommended that "parents should read to Jack, books should be made available, and the use of cloze sentences" could show him "that reading has meaning." Another preservice teacher indicated that "Jack is not trying because he is not interested in the material and he has not developed the maturity nor the self-discipline to overcome this." Her recommendation was to "capture his interest" by having Jack "read outside of class for fun" and to ask the parents to "encourage responsibility and risk-taking." In every protocol, the primary reasons for the student's problems were attributed to student factors (e.g., explaining that teachers' didn't understand the student's life experiences, or hypothesizing that the student wasn't motivated, or describing the student's vision problems and so on).

At the pre-case analysis stage, these students did not generate teacher, curricular, or other perspectives to account for the student's literacy problems. Once the preservice teachers "settled" on this limited number of factors to explain complex problems, they generated recommendations, such as reading to Jack or encouraging responsibility, that corresponded one-to-one with the identified problems. While their recommendations were usually appropriate for the stated problems, they read like "text-book solutions" (e.g., provide books according to the student's interest and background, use cloze sentences, provide corrective lens) being far removed from an explanation of how to situate these recommendations within the student's instructional program.

On the post-case analysis, two major differences from the pre-case analysis were documented. First, these teachers generated many more (two to three times as many) reasons to explain the problems embedded in the case. For example, the preservice teacher who described Jack as a "typical twelve year old" indicated that interest and motivation were still factors that concerned her, but she went further by indicating that it was helpful to know "which books interest Jack for planning sessions that could be motivating. However, I am focusing on Jack's reading and his test scores. This is a good place to start to understand his motivation." She went on to note that "Jack doesn't read for meaning so he has comprehension problems. It is alarming that Jack can read some of the text without understanding." She then pointed out the relationship of this finding to the report that Jack's teacher focuses on "word attack" and the need to help "Jack pronounce all of the words correctly so that meaning can develop." While this student and the other preservice teachers continued to focus on the student perspective, they displayed increased knowledge and flexible thinking by generating alternate viewpoints (e.g., findings from diagnostic and observation data, limitations of text and instructional procedures, problems with testing procedures). Furthermore, they discussed the problems as they related to one another, noting connections such as how problems with text selection can impede the student's motivation and interest.

Second, recommendations continued to be appropriate for identified problems, but these recommendations were (a) supported by examples drawn from class discussions or their practicum experiences, and (b) were made applicable to situations presented in the case information. One preservice teacher's response illustrates this finding. She indicated that "Jack is very similar to my practicum student, Chris. I suggest some ideas that seemed to be successful for Chris and related to the ideas talked about in my methods courses." She went on to say that Jack needs to learn that "comprehension is key to reading" and that once he begins to understand what he reads he will be "motivated" to read more. She advised the teacher and Jack's parents to encourage wide reading of easy materials and "lots of discussion about the meaning of the stories." Further, she recommended that the teacher provide "Jack strategies for attacking unfamiliar words and that whatever he reads must make sense" and relate to "the main text ideas that are discussed in class.

Another preservice teacher who placed emphasis on teaching for understanding drew upon her readings about portfolios to explain how she would use portfolio conferences "to help him set up goals for his reading" and to discuss the "meanings of what he read." Overall, on the post-case analysis the preservice teachers generated recommendations that were context-specific and context-appropriate. Also, their recommendations displayed connections across several sources of information as they integrated their ideas to present a "common" plan for teaching (e.g., building motivation by combining appropriate text choices *and* guided reading that involved active participation). Even though some students referred to their readings to support their recommendations, they relied primarily on these readings to explain procedural information—steps for implementing particular teaching strategies. While a few students also generated theoretical support for their recommendations, this finding was not uniform across this group's responses.

Conversely, on the pre-case analysis the experienced teachers responded to the case information with a more comprehensive view of the multiple problems embedded in the case. More factors were discussed by the graduate students than the preservice teachers, but the specific choice of factors varied for each teacher (ranging from text and curriculum factors to child and home life factors). This differs from the preservice teachers, who initially focused on child factors primarily; no common set of factors was chosen by all experienced teachers. For example, one teacher indicated that there were:

> . . . several factors to consider. Jack seems to get some basic ideas but has limited fluency and comprehension. He seems to be disinterested and his parents are worried about his success in school, but they seem unable to find the answer to Jack's problem from within the school system. I wonder why there is a lack of academic records. Why can't the parents communicate with the school? I also think Jack's chance of success would be greater if the tutor was allowed [by the parents] to communicate with his teacher. If I was his teacher, I would want to talk with them. How could I channel his parents concern in a positive, supportive, effective effort to help Jack? There is a need for oral and silent reading improvement . . . he has no understanding of flexibility rate; he does not scan ever and reads slowly both silently and orally; he has difficulty with word recognition and he ignores context clues. . . .

This example illustrates the range of factors that each experienced teacher chose to analyze.

Also, on the initial analysis, the experienced teachers referred to their teaching experiences to explain their recommendations and situated their recommendations within the context of the case information. For example, the teachers explained how they would adjust the case student's instruction and involvement in class discussions by implementing specific procedures. One teacher explained "when I taught I found content books were difficult for some students. I used marginal glosses to help comprehension. I would try this with Jack by inserting questions and additional information as a way to make these texts more understandable for him." Another teacher explained "I found success working with a resource teacher to help students with reading problems. Here we could work on comprehension by having the resource teacher preview the story and practice important vocabulary."

On the post-case analysis, the experienced teachers' responses to the case became even more comprehensive and inclusive. One teacher suggested that the psychologist's report:

> indicates that the examiner believes heavily on the influence of cognitive abilities in the reading process. The author does acknowledge other factors in Jack's life, but the focus is on the actual skills of reading. From the analysis of the author's writing I'm inclined to say that he/she has a bottom-up view of reading. Whatever view the author has, it is clear that he/she thinks there are inadequacies in reading instruction.

This teacher went on to recommend that she would:

> begin instruction with some work on word parts and contextual clues in an effort to improve Jack's comprehension. I would balance material for instruction between school reading requirements and pleasure reading based on Jack's interests. I think Jack has a strong foundation in reading, but has been unable to utilize his knowledge effectively. I think he needs some strategies to be able to solve words, after he understands the importance and significance of unfamiliar words . . . I would gradually shift towards improving fluency. . . . This might be a good time to use taped readings for Jack to read along with as well as taping some of Jack's reading so that he can assess [his own] weaknesses and hear improvement in his abilities.

Another teacher noted that

> teaching Jack study skills as an approach may ignore other factors that are likely contributing to Jack's troubles. Chief among these are his dislike of reading and his seemingly cavalier attitude toward meaning: Jack either does not know that what he reads should make sense; or he has become so disenchanted with reading that he no longer cares whether the words on the page mean much. The issue I am weighing . . . is how to create a remediation program that will address both Jack's dislike of reading and his need to learn study skills. Additionally, the information that Jack's vision problems were corrected is helpful for my planning.

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Several teachers emphasized ways to develop metacognitive strategies. For example, one suggested that strategies "using ways to solicit, validate and refute predictions, and techniques for reciprocal teaching would all help Jack's comprehension, while at the same time help him develop the big picture of literacy—reading for pleasure and information." This teacher went on to refer to research supporting the effectiveness of reciprocal teaching for building strategic questioning and for instruction such as sustained silent reading for building fluency. In general these teachers noticed more problems during their second analysis and generated multiple ways to situate their recommendations and to provide alternate solutions. Additionally, they now supported their recommendations with spontaneous references to theories and research findings that they had read that semester.

Learning the Importance of Knowing and Doing

When the students reflected on their pre-case and post-case performance, both groups acknowledged areas of change and growth and recognized the importance of information they learned. Both groups described their increased knowledge of the complexities of reading problems and the need to draw on their experiences, class discussions of other cases, and actual teaching experiences to help them frame and respond to classroom problems. A preservice teacher said that her recommendations "became more specific. I also thought of things I would do as a teacher and ways to involve the parents and a counselor. . . . I definitely referred to my field experiences in the practicum in writing this." Another preservice teacher indicated that he was thinking more about ways to organize his future classroom to provide "individual attention to Jack by setting up small group activities and taking a specific time to meet with Jack daily . . . what I have noticed, too, from the video cases, the readings, and my own experiences is the only way to become a better reader is by reading what is enjoyable. Also, in the practicum I was able to try what I had observed in the videos for building comprehension and fluency and see that these strategies really make a difference." One experienced teacher noted that "I became more secure in suggesting intervention activities. This may be due to the work that I have done this semester in the practicum, as well as my discussions in class with the others working with individual students. I was able to build on my teaching experiences by taking this semester to study individuals with reading problems."

Both groups documented specific differences in their two responses. For example, one preservice teacher wrote "surprisingly, my views of the case changed. I first felt that the teacher's instruction was integrated. Then, I changed to recognize a bottom-up orientation, for I noticed too much emphasis on Jack's weaknesses and specific inabilities to perform skills followed by this kind of emphasis in instruction." One experienced teacher's explanation is illustrative of many others. She said "I focused more on the emotional and visual aspects of the assessment in the first reaction, and did not really address either in the second reaction. When it came to making recommendations for different individuals involved in Jack's education, I was able to make more concrete suggestions, including specific strategies to be modeled and used with him."

More importantly, perhaps, is the finding that both groups expressed awareness of the difficulty they had initially in supporting their recommendations and that their final recommendations to resolve case problems were more grounded in their acquired knowledge. A preservice teacher summed up her post-case analysis by saying "Wow! I definitely have learned a lot this semester. My previous analysis showed an inability to see the problems of a remedial reader. I thought different materials would help but I didn't understand how to analyze the oral miscues and to think about Jack's interview as a way to guide my recommendations for interacting with Jack-quite apart from just changing materials." One experienced teacher indicated that "recommendations for the teacher were lacking in the first case reaction" because she was so focused on the "problems between the parents and Jack's teacher" that she didn't "weigh other ways to examine the case." Students in both groups were able to explain how their beliefs changed over time and how these beliefs were influenced by their knowledge of course content.

Integrating Knowledge Sources to Guide Making Sense of Teaching and Learning Events

The analysis of the two groups revealed that the preservice teachers moved from a linear or single perspective model (i.e., child factors) of learning and teaching to a model that integrated multiple perspectives (e.g., child, text, curriculum, school context factors) to guide analysis of case information. Integration of perspectives occurred for both teacher groups on the post-case analysis as evidenced by their ability to draw on several perspectives simultaneously to describe the complexity of problems. Furthermore, recommendations from both groups to resolve problems also contained different and alternate perspectives. As noted by Doyle (1985) and Copeland and his colleagues (1994), the development of interconnectedness of ideas is an important cognitive prerequisite for curriculum enactment in classrooms and a goal that is not typically achieved by preservice teachers.

Pre-test to post-test changes for the preservice teachers were similar in direction to that of the graduate students' changes, and exceeded "developmental milestones" typically assigned to "novice" or apprentice teachers (Doyle, 1985; Copeland et. al., 1994). The data revealed that the preservice teachers were developing flexible knowledge representations and an in-depth understanding of information much earlier than what may be expected for their level of development. When confronted with complex and novel problems, these future teachers were able to generate accurate interpretations of multiple sources of information and provide resolutions that were context-appropriate. Additionally, these students evaluated their own growth and beliefs in ways that helped them identify the importance of information they were learning and its positive influence on their teaching and beliefs.

Summary and Implications

Teacher education programs may be producing teachers who know *what* to do but who do not know *when* or *why* procedures are most appropriately applied. One factor contributing to future teachers' inability to apply *what* they are learning is related to their limited experience in actual teaching situations. Lesgold (1988) argues that declarative or factual knowledge can be gained from teacher lectures or textbooks but that this knowledge alone will not help learners solve problems unless they also learn how to translate this knowledge into "mental acts" (p. 98), or the defining and thinking about problems in ways that produce reasonable solutions help future teachers. Learning to translate knowledge into action may require immersing prospective teachers in problem-solving contexts that produce "knowledge that interacts with the particular context and classroom situation in which the knowledge is transformed into action" (Richardson, 1990, p. 12). The methodology used for this study provided a way to examine the knowledge representations of preservice and experienced teachers. The data revealed how these individuals view the world of teaching and learning and how they use this knowledge to respond to situated problems. The results indicate that case methodology, when combined with teaching experiences, provides a powerful way to modify and extend the mental models about teaching and learning that preservice teachers have prior to taking methodology courses. Building on the research of Lundeberg and Fawver (1993), our findings suggest that cases situated in authentic situations contribute to substantial cognitive growth and multiple ways to approach complex problems. Preservice teachers involved in sustained thinking about complex cases were able to display their knowledge in ways very similar to those displayed by the experienced teachers. Such growth is not generally predicted (e.g., Doyle, 1985) for teachers at this stage of their development when they have had limited experiences in classrooms.

We believe that our methodology provides an opportunity for cross-referencing important information across our videodisc cases and requires preservice teachers to use their knowledge for appropriate exploration and resolution of complexities associated with literacy instruction. Our findings support our earlier hypotheses that involving preservice teachers in the exploration of the videodisc-based cases seems to provide a challenge similar to that of actual teaching experiences and may accelerate preservice teachers' ability to make connections across multiple perspectives before their entry into extended teaching experiences. This finding seems important when thinking about ways to prepare future teachers. If prior to student teaching, preservice teachers' knowledge representation can be enhanced and accelerated as is described in this paper, teachers can be better prepared to respond to the curriculum demands and dilemmas that confront them as beginning teachers.

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FIELD EXPERIENCE COMPONENTS IN SECONDARY CONTENT READING COURSES: A NATIONAL SURVEY

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Abstract

A content area reading course is often the only required reading course for secondary majors. For elementary majors there are often two or three courses on teaching reading, some of which contain a field experience component. The authors report the results of a national survey of teacher preparation programs. Out of 61 programs surveyed the majority included a required course in content area reading methods. Approximately one-third of these programs included a field component. The characteristics of the field components are identified in the paper. The authors make recommendations based on these descriptions and respondents' comments.

Introduction

Teacher preparation at the secondary level involves the learning not only of extensive content but also the processes of delivery of that content to middle through high school students. One aspect of this preparation is understanding and addressing the literacy needs of secondary students. The information and experience necessary for this task often are provided in individual courses labeled *Reading in the Content Areas, Reading in Secondary Schools,* and the like. Exploring the nature of these courses can be helpful in gauging the kind of support being given to preservice secondary teachers in the area of the literacy needs of their students. More specifically, exploring the nature of the point where content meets process, the field experience, can help determine how to improve the preparation of secondary teachers. Inquiry about college and university secondary reading courses and possible field experiences can help in planning for the best preparation of teachers who are going to teach content courses at the secondary level.

Teacher education has been part of the focus of school reform occurring at all levels and in all areas of education. In particular, reform of teacher preparation programs has necessitated a review of course offerings and content for elementary and secondary preservice teachers.

For elementary majors there are often two or three courses on teaching reading or literacy, most of which contain a field experience component. Courses in teaching reading and/or language arts, part of a "block" program, literacy in the content areas, and emergent literacy are typical offerings in elementary teacher preparation. These courses often have field experiences attached to them with observation, tutoring, planning, instruction, and assessment in varying combinations.

On the other hand, a content reading course is often the only literacy-related course for secondary majors, although inclusion of this course is not always a requirement. The provision of field experiences as part of secondary reading courses seems less apparent than in elementary programs.

Literature about field experiences in general is limited. What is available reflects commentary on the lack of data about field experiences, documents the value of field experiences, and offers recommendations about field experiences in teacher preparation programs. Dowhower (1990), in her study of early field experiences with elementary preservice teachers, commented on the lack of data about early field experiences in all programs. Smith (1991), as a result of an analysis of the field experiences of elementary preservice teachers, also commented on the lack of data.

In secondary teacher preparation, the value of early field experience in tutoring for the tutees and the attitudes of the preservice teachers is documented in several studies. Applegate and Lasley (1985) found that undergraduates wanted early field experiences to help them prepare for teaching. Alvermann, Boothby, Merrion, and Waack (1983) found changes in beliefs about teaching and in teaching behavior with an early field experience program. Bates and Carroll (1984) determined positive effects of a semester-long tutoring program as part of a reading in the content area methods course. Laine (1990) surveyed alumni of a program that used the college developmental reading classes as practicum sites for preservice English teachers. Respondents were positive in their reactions to the helpfulness of this field experience before student teaching.

In addition to the articles commenting on the lack of data about field experiences and those documenting the value and need for such experiences, there are recommendations about field experiences in teacher preparation. Tellep (1990) recommended field experiences in stages and research to evaluate their effects. Thompson (1986) recommended well-developed field experiences for college-level secondary reading courses in order to adequately serve certification requirements.

Gathering information about field experiences in preservice secondary content reading courses can add to the limited literature and help in decision-making for program improvement in secondary teacher preparation. We undertook the following study as part of an evaluation of a preparation program for secondary teachers. Specifically, we conducted a national survey to inquire how secondary preparation programs combine secondary reading courses and field experiences. The following questions framed the study:

1. Do colleges and universities which prepare secondary teachers have a "reading in the content area" course?
2. Of those colleges and universities having these courses, which schools have field experiences as a course component?
3. What comments and perceptions do responding faculty share concerning the nature of the course, field components, and program contexts?

Design

Instrument

In the fall of 1993 we developed and mailed a survey to sample the demographics of colleges and universities with teacher preparation programs. The survey included forced-choice and open-ended questions. It asked respondents to describe their secondary programs in contrast to their elementary programs. We wanted to get reports of their successes, concerns, and recommendations. The survey is included in Appendix A.

Sample

The survey was sent to a random sample of 176 Level I, IIA, and IIB colleges and universities across the country. We identified schools using the American Association of University Professors' categorical rating scale as published in the *Chronicle of Higher Education* (Fact File, 1993). Institutions designated as I were doctoral institutions; those designated as IIA were comprehensive institutions; and those designated as IIB were baccalaureate programs. By state, for every ten public or private institutions we chose one per category (I, IIA, IIB), thus sampling 10% of the institutions. We made random choices among the institutions in a category, checked whether they had teacher preparation programs, and, if not, chose the next institution numerically.

Results

We received a 35 percent return on the survey, 61 schools responding from 38 states. Category I schools returned 14 surveys, Category IIA returned 20 surveys, and Category IIB returned 27 surveys. The average size of I and IIA schools was 10,800 students; IIB average size was 2000. The average size of the secondary programs in the I and IIA schools was 329 students; IIB average size was 125.

Survey results were tabulated for this information and specifics of the components were identified. Size of school, location, or size of secondary program did not differentiate responses. Schools designated I, IIA, and IIB responded in similar fashion throughout the survey. The one designation that contained some contrast by category of school was that of Program. (See Table 1)

Table 1. Survey results for field experience in secondary reading courses

Respondents	Number	No Course	Course without Field	Course with Field
I	14	4 (29%)*	6 (42%)	4 (29%)
IIA	20	6 (30%)	9 (45%)	5 (25%)
IIB	27	2 (7%)	13 (47%)	12 (46%)
Total	61	12 (20%)	28 (46%)	21 (34%)

*% of respondents

There were three types of program responses: programs with no secondary content reading courses, those with secondary content reading courses but no attached field experience, and programs with secondary content reading courses with field experiences. Of the Category I schools that responded (14) 29 percent did not have a course. Of the Category IIA schools that responded (20) 30 percent did not have a course. Of the Category IIB schools that responded (27) only 7 percent did not have a content reading course. Similarly, 29 percent of Category I schools had a course with a field experience component, 25 percent of Category IIA schools had a course and field, and 46 percent of IIB schools responding had a secondary reading course with a field experience attached. Twelve of the 61 schools had no course in reading for their secondary majors. Some reasons given for not having a course included a reorganization of their teacher education program, eliminating the course. Some had added a course for a new master's degree in teaching.

taking it out of the undergraduate program. One had the course only as part of the program for English majors. Ironically, a large successful secondary reading program was cut because of budget problems even as the survey was being completed. Another respondent graphically offered that the content reading course was "chopped" by the state as a requirement and consequently eliminated from the college preparation program.

Out of 61 programs, fifty (80%) included a course in secondary content area reading methods. Twenty-one of the 61 programs (30%) included a field component with the content area reading course.

Responses from the twenty-one programs with field experience component courses were similar in several ways. Most courses were required and tied to state certification mandates. All were offered through the education units of the colleges with specialized faculty, one with a public school reading specialist. The history of the courses varied from 4-20 years with most reflecting the course mandated in the 1970s. Most said the course had changed over the years, indicating the addition of journals, lesson plans, portfolios, grades done by site evaluation and student contract, more writing, and process strategies.

The reported field experiences were highly varied. The range included: 1 observation, 10-30 hours prior to student teaching, concurrent reading in the content area field with methods course in the major supervised by both instructors, and every class requiring a field experience be attached. The field experiences were conducted in public and private middle through high schools with, in most cases, limited supervision by teacher education faculty and site faculty. Little communication between the teacher education faculty and the site faculty was evident from the responses. Problems respondents reported included not having enough time for the field experiences in students' schedules and not having enough time in the college classroom for the course. Difficulty convincing students of the need and relevance for the course and field were also mentioned as a significant problem.

Several recommended changes were related to the problems reported above. Most often mentioned were the need for: more communication between the teacher education program and the school sites, teachers whose philosophies and teaching conceptually matched what was taught in the college classroom, and a cross-discipline focus. Sufficient collaborative planning time and clearly delineated roles and responsibilities were additional recommendations.

An example of a profile created by responses from the survey follows. The case school was a IIB college in Indiana with 900 students, 83 of them secondary education majors. The content area reading in the secondary schools course was a required course taught by faculty with a doctorate in reading. The course had evolved over a long period, adding more informal assessment, consideration of special needs students, and more writing over the years. This course included an attached field experience, the preservice secondary students' third field experience. This experience was one-half day a week in the student teaching site prior to the student teaching semester and was supervised by the college faculty instructor and the designated student teaching supervisor. The problems noted about the secondary reading offering included the need for yet more time both in the college classroom and on site and the need for secondary teachers who shared the vision of the teacher education program. This school's teacher preparation program was facing major budget cuts at the time of the survey.

Discussion

As we analyzed the results of the survey, we noted some similarities. Our discussion focuses on three of the common elements in the responses: level of involvement, factors of change, and recommendations.

Level of Involvement

Level of involvement elements included course format and the amount of interaction among the university faculty, the site faculty, and the teacher preparation students. When we looked at the topics offered in the secondary reading in the content area courses, we saw courses organized in traditional formats with emphasis on methods, with traditional practica offering some opportunity to apply ideas and to observe real students and how they learn.

Students and the university instructor generally saw each other in the course, which took place in the university setting; the practica took place in the public school setting. The student was involved in both settings, but the instructor was generally not involved in both settings. Looking at the practica, we saw a range of involvement. At one end (and most examples fell somewhere toward this end) there was little collaboration between the higher education faculty and the classroom teachers. Communication took place through a form or checklist and actual discussion was usually saved for problem situations. Very little three-way planning took place. In many cases the higher education faculty member never had the opportunity to visit. This was especially true in practica where the student's role was primarily that of an observer.

Many of the recommendations in the surveys called for greater involvement of all parties—higher education faculty, public school faculty, students, administration. However, only a few situations allowed for school liaisons, site-based instruction, or cohesive placement over time in the same school. Ironically, three of the programs that reported the greatest depth of involvement were terminating much of the practica because of recent budget emergencies. It was interesting that recommendations pointed out the importance of greater involvement to make the practica worth doing, affirming the need to add more involvement in improving the program. No respondent recommended less involvement as an option.

Factors of Change

These elements in the responses focused on the content of the course, the provision of the field experiences, and course advocacy by faculty. The reported content of the secondary content reading coursework has changed in ways that mirror changes in many of the literacy courses offered in teacher education—emerging emphasis on process, valuing reading-writing relationships, understanding cognition, and incorporating reflection. A number of respondents mentioned "in the works" ideas and plans. The term "reading" is still in the course titles.

Interestingly, we saw no new or recently implemented practica. Most of the secondary content area reading courses have been around for over 25 years. They came about because of state mandates or faculty initiatives and have evolved because of these forces. The programs that have practica attached to courses have had such practica for many years, some faculty having seen the value of field experience since the inception of the courses.

It is hard to overlook the importance of faculty advocacy in support of the secondary content area reading courses. Some advocacy had been stalled by budget concerns in the responses we received, but from the earliest reported programs faculty advocacy either originated or sustained provision of the course and field experiences. Several indicated that they would like to do things differently but were held back by the lack of resources. As mentioned earlier, programs were being drastically reduced because of budget constraints. Sobering here is that even programs that were respected and had proven themselves worthwhile were in jeopardy.

Recommendations

Respondents offered recommendations that reflect a more integrated approach to the secondary content area reading courses and field experiences. The need for site-based instruction, cross-discipline cooperation, and faculty collegiality appeared often in the respondents' recommendations. Importantly, no one recommended dropping the practica; those who addressed the issue offered ways to improve them. Several areas were emphasized in the suggestions. First, greater collaboration among the classroom teacher, the higher education instructor, and the students is crucial. All need to share a sense of what is to be gained and need to share in planning and decision making. Several respondents recommended the need for an enhanced conceptual match between the philosophies of the university program and the public school experience, considering the needs and levels of knowledge and competence of preservice teachers. Again, respondents believed more opportunities for collaborative planning and general improvement in communication would lead to better understanding of goals and outcomes.

Site-based instruction, team teaching, cohesive placement, and greater cohesion or alignment among content area reading experiences, methods, and various practica were other recommendations relating to curriculum. School-based liaisons, who have a sense of program and a vested interest in success, would help continuity and quality of instruction and information.

Time was a topic appearing in many responses—the need for more time for the course, more time for field experience, more time for collaboration, and more time for reflection. Being creative with sequences of courses and field experiences was recommended, although no examples or suggestions about how to do that were given.

In summary, more of the schools had practica than is clear from the literature. No respondent recommended dropping the practica and several shared recommendations about ways to improve what existed. Most felt that lack of budget resources was hindering improvement.

Conclusion

The elements of these recommendations make sense based on practical wisdom from experiences with undergraduate secondary content area reading courses, but also are consistent with recommendations from school reform research and literature. School reform recommendations clearly call for cooperative and carefully planned field experiences for preservice teachers; ample mentoring from all the players, including excellent public school teachers and the students' peers; carefully sequenced experiences that allow for ample opportunities for students to be involved in active learning; and the development of partnerships with public school teachers (for example, see Barnes 1987; Goodlad, 1990; The Holmes Group, 1986; and Thompson, 1986).

These were some striking realizations for us to consider for the prospective discussion about change in our own program. The problem of maintaining, not to mention acquiring, financial support for reforming coursework and related site-based experiences in secondary content reading exists across the country. Advocacy for literacy-related courses and field experiences in the secondary teacher preparation program will be even more critical in this atmosphere. If these courses are easily eliminated, can it be because they are isolated? Perhaps those faculty charged with supporting content area reading courses have not made essential connections clear to faculty in the content methods courses. Methods faculty may need to be convinced of the value of the content reading course in order to fight for its inclusion in the program.

Establishing a rationale for the place of the content area reading course in the larger program context will affect how it is seen by departments and the entire teacher preparation program. This will be a large part of the task in the restructuring of our program. Faculty with responsibility for secondary content area reading courses might want to take heed.

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Appendix: Secondary Content Area Reading Courses Field Experience Survey

As part of improvement efforts in the teacher education program at our institution, we are considering adding early field experiences to the content area reading methods courses taken by secondary majors. We are interested in knowing how your institution integrates field experiences at that level.

Please take the opportunity to complete this survey and return it to us in the attached prepaid envelope by November 22, 1993. Complete the mailing information below if you would like a copy of the results. Thank you for your assistance.

Name ______________________ Institution ______________________
(Optional) (Optional)

Institutional Address ______________________

Background

1. What is the size of your institution?
2. How many students are enrolled in your undergraduate education program?
   elementary
   secondary
3. Does your undergraduate program lead to an endorsement or certification in reading? If so, please specify the certification.
4. Do you have a graduate program in education? If so, how many students are enrolled?
5. Does your graduate program lead to an endorsement or certification in reading? If so, please specify the certification.
6. Do you have a graduate program with a major in reading?
7. Do you have a specific course on reading in the content areas for undergraduate secondary majors? If so, please complete a-g.
   a. Is it a required course?
   b. In what department is the course listed?
   c. Who generally teaches the course (e.g., GA, specialty faculty, others)?
   d. How long has this course been offered?
   e. How was the course conceived? For example, was it part of a larger reform effort, a result of new guidelines, etc.?
   f. Has the organization content of this course changed in recent years?
   g. If so, how?
8. Do you have field experiences other than student teaching in the elementary education program? If so, please complete a-b.
   a. Indicate the opportunities there are for students to have a field experience.
   b. In what types of sites do they occur?
9. Do you have field experiences other than student teaching in the secondary program? If so, please complete a-g. (If you do not, **please send the survey as complete at this point.** See page 3 for details.)
   a. Indicate the opportunities there are for students to have a field experience.
   b. In what types of sites do they occur?
   c. How many students per term undertake field experiences?

d. Who does the placements?
e. What credit value do the field experiences carry?
f. How are the field experiences connected to the course organization and time?
g. Who supervises the experiences?

Description of Secondary Reading in the Content Area Course/Field Experience

10. a. Does the secondary reading in the content area course contain a field experience component?
    b. If not, do you believe a field experience component would be helpful?
    c. If so, what would be the ideal field experience?

(If the answer to 10a was "No," **please send the survey as complete at this point.**) If "yes," please complete the rest of the survey. *Because many programs do not have Field Experiences with the Secondary Content Area Reading Courses, we are especially interested in the responses to items 11-26. Thank you for the extra time it takes to complete these items.*

11. Briefly describe the secondary reading course that houses the field experience.
12. How is the secondary reading course related to other courses in the program?
13. In what types of sites does the field experience take place?
14. Describe the field experience schedule. Include the schedule by day, week, and term.
15. How is the secondary reading field experience related to other field experiences in the program?
16. How does the field experience fit conceptually and practically into the course?
17. What are the goals/expectations for this field experience?
18. What products are required in this field experience?
19. How is observation of the student in the field experience carried out?
20. What collaboration with classroom teachers is carried out?
21. How is student reflection incorporated into the course?
22. How is the field experience evaluated?

Additional Aspects

23. What successes have you had with the field experiences?
24. What problems in planning, implementation, and/or evaluation have occurred in the field experience component to the secondary reading in the content area course?
25. In your opinion, what would be the ideal field experience?
26. Are changes planned in the current field experience? If so, please describe the changes and the rationale for them.

NOTE: Please feel free to make additional comments about your experiences with secondary reading in the content area courses and field components. Any information you share will help us in the improvement of our teacher education program. Thank you again for your time and effort.

LITERATURE INFUSION: A SHOT IN THE ARM FOR ELEMENTARY METHODS COURSES

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Abstract

One of the biggest changes in reading instruction in recent years is the expanding use of children's literature as the foundation of teaching materials used in the classroom. This paradigm shift is occurring because of the documented benefits of this practice. Before preservice teachers can embrace the philosophy of literature-based instruction, they must first experience the process of enjoying and responding to literature. With that experience comes the realization of the benefits derived from such an approach in the classroom. This article describes how literature and its use as a basis of instruction is infused into all reading and language arts methods courses for preservice teachers in the Elementary Education Program at Southeastern Oklahoma State University.

Introduction

One of the biggest changes in reading instruction in recent years is the expanding use of children's literature as the foundation of teaching materials used in the classroom. Literacy programs in New Zealand, Australia, Canada, and England all emphasize literature (Routman, 1988). This same trend is developing within the United States where California and many other states have mandated literature-based curriculums. Other states are considering movement in that direction (Norton, 1992). This paradigm shift is occurring because of documented benefits of literature use in the elementary classroom.

One benefit of a literature-based curriculum is increased student interest in reading (Mendoza, 1985; Porter, 1969). This interest promotes greater reading comprehension (Asher, 1980; Asher & Markell, 1974; Matthewson, 1985). In addition, reading and listening to literature are linked to increased vocabulary (Ninio, 1980; Ninio & Bruner, 1978) and knowledge of story structure

(Adams & Collins, 1979; Stein & Glenn, 1979). Literature also serves as a model for writing (Graves, 1983; Hansen, 1987).

In order for literature-based instruction to be successful however, the teacher must provide the setting and the resources. Hickman (1981) states that children's responses to literature are influenced by rich literacy environments and teacher enthusiasm toward literature. Providing social interaction with common content allows students to develop into a community of readers who value reading because of the modeling provided by the teacher and others within the classroom (Hepler & Hickman, 1982). Unfortunately, few preservice teachers today have experienced learning within a literature-based classroom, and preservice teachers' early conceptions of teaching are derived largely from their experiences as students themselves (Walker and Roskos, 1994). Before preservice teachers can embrace the philosophy of literature-based instruction, they must first experience the process of enjoying and responding to literature and with that comes the realization of benefits derived from such an approach. Teacher education classes must provide process models that both demonstrate appropriate elementary classroom practice and enhance content learning (Kelly and Farnan, 1990).

This article describes how literature and its use as a basis of instruction is infused into all reading and language arts methods courses for preservice teachers in the Elementary Education Program at Southeastern Oklahoma State University. Following is a rationale for this model of instruction, an overall program description, a description of each course, and a typical literature-based activity utilized within each course.

Rationale

When instructors model the use of appropriate children's literature in methods classes, preservice teachers gain an appreciation for children's literature and its use as a foundation for instruction. Concepts of the types of literature that are suitable for varying age groups and knowledge of appropriate strategies for use in the elementary classroom are also developed during this modeling. This addresses Norton's (1992) assertion that "to develop an excellent literature-based reading program, teachers need to know how to select literature and must be skilled in the instructional strategies that highlight the best features of literature as well as excite the students" (p. 11).

Program Description

In the Elementary Education Program at Southeastern Oklahoma State University, there are a total of five courses in the reading/language arts sequence. All courses include the presentation of literature, construction of a literature card file, and opportunities to purchase children's literature to begin building a personal classroom library.

Presentation of Literature

Literature is presented during the first or last ten to fifteen minutes of each session. The literature is carefully chosen to support concepts currently being presented in class. For instance, when the development of infants from birth to twelve months is discussed, books appropriate for that age group are presented. When sight vocabulary is addressed, labeling and repetitive pattern books are introduced.

The presentation of books varies. Literature often is presented by reading the entire book to the class while modeling appropriate read-aloud strategies. At other times, excerpts are read to entice students to read the rest themselves, and sometimes only bibliographic information, a short annotation, and possible categories of use are given.

Literature Card Files

Students keep card files of the literature presented in class. They are encouraged to bring index cards to each class session in order to record bibliographic information, annotations, filing categories, and possible extension activities as each book is presented in class. Students sort their cards into self-chosen categories and make a card file with tabbed category cards. Categories are often cross-referenced to include genre as well as alternative topics.

Toward the end of each course, students use their card files in an application activity. They may be asked, for example, to choose book titles from their files to support a certain thematic topic or a particular teaching situation. At the end of the course, students merge their files with files from other courses. The resulting literature file becomes a valuable resource for their future teaching in elementary classrooms.

Book Orders

To provide students access to inexpensive sources of good children's literature, instructors supply each class with monthly book order forms from Scholastic, Trumpet, Troll, or Golden. Student purchases are optional; however, student interaction with these order forms leads to increased discussion about books and heightened interest and appreciation for children's literature. In addition, many students use the book clubs as a way to begin their personal classroom libraries.

Courses and Typical Activities

Foundations of Literacy—"Cinderella" Activities

This introductory course is one of the first in the elementary education program. Child development, language, and literacy development from birth to age eight are addressed .

A series of activities using multiple versions of "Cinderella" stories are used. The first activity is designed to give students experience in formulating visual representations of story structure, while also exposing them to various versions of the universal "Cinderella" story (Huck et al., 1993). The class is divided into small groups of three or four students who choose a "Cinderella" story from books provided by the instructor. Various types of maps and webs (Bromley, 1991), which have previously been modeled in class, are listed on the chalkboard. These may include beginning-middle-end, character, problem solution, comparison contrast, or cause effect. Each group chooses, or is assigned, a particular type of map or web to prepare from their selected literature. The book is shared within the group and the map or web is drawn on butcher paper and presented to the class.

The second activity focuses on common elements of a fairy tale. A chart is constructed using the following categories: title, beginning words, good character(s), evil character(s), magic, threes, royalty, ending words. Information from the various tales is shared and written on the chart. This sharing allows students access to all the versions of the "Cinderella" story represented in the class and also provides the opportunity to note similarities and differences among the stories. Several versions represent different cultures and this charting helps to show that many cultures have similar tales (Huck et al., 1993).

The third activity, using the same group of books, focuses on formulating comprehension questions at three levels: literal, interpretive, and critical (Nessel, 1987). Question construction has been modeled by the instructor. Each group of students is asked to formulate two questions on each level and write them on a single sheet of paper. Each group member signs the top of the page (Ellis & Whalen, 1990). The groups then exchange books and papers. Questions are evaluated as the receiving group decides if each question is truly representative of the comprehension level under which it is listed. If changes are needed to more accurately reflect the level chosen, suggestions are written on the paper. Each member of the receiving group signs the bottom of the paper to signify that the questions have been evaluated and changes suggested, if needed. The paper and book are then returned to the original group to give them the opportunity to view the suggestions and make modifications. Revised questions are later handed in to the instructor who reviews them to evaluate students' understanding. By using a single piece of literature with three different activities, preservice teachers learn that many different skills can be built using one book. They also learn there are many ways to visually represent various story elements, which can be helpful when building a concept of story with young students. By charting several versions of the same tale, preservice teachers become familiar with a strategy for comparing elements within a genre. The importance of critical thinking and formulation of questions for various levels of comprehension is emphasized as preservice teachers develop questions that address literal, interpretive, and critical comprehension for young children. Actually experiencing these strategies makes it more likely that preservice teachers will use them in future teaching (Brazee & Kristo, 1986).

Language Arts Methods—Readers' Theater

Language Arts is typically taken early in the elementary education program sequence. It investigates the use of listening, speaking, reading, and writing as vehicles for learning.

One literature-based activity currently being implemented in Language Arts uses several collections of stories by Arnold Lobel, including *Mouse Soup, Frog and Toad Together, Frog and Toad Are Friends, Days With Frog and Toad,* and *Mouse Tales.* Stories in these collections are rewritten as Readers' Theater scripts and performed by the students, sometimes for one another and sometimes for their elementary school pen pals.

Readers' Theater is a form of literature response in which all children can be part of a creative interpretation of a story. Using appropriate literature as a base for the script supports students' experience of shared writing and oral presentation while enjoying good literature.

Having preservice teachers actually develop and present a Readers' Theater script allows them to read appropriate books, talk about the characteristics of books suitable for Readers' Theater, experience the negotiations involved in shared writing, present their interpretations of the story, and reflect on how this strategy could be incorporated into their own classrooms.

Reading I—Repetitive Pattern Book Project

Reading I is taken after a student has successfully completed the Foundations of Literacy course. The course content focuses on the development of sight vocabulary and other word recognition strategies. It also addresses various approaches to teaching reading, especially in the primary grades.

In this course preservice teachers are given experience with repetitive pattern books, and learn to analyze the books to discover different types of patterns. For example, they analyze a circle story like *If You Give a Mouse a Cookie* by Laura Joffe Numeroff, a cumulative story like *The Jacket I Wear in the Snow* by Shirley Neitzel, or a very simple pattern as presented in *It Looked Like Spilt Milk* by Charles Shaw. Then, preservice teachers participate in writing a class collaboration based upon a selected repetitive pattern book. Next, they choose two repetitive pattern books and work with primary children to assist the children in creating books of their own. This process is video taped by the college student. Each student turns in a written reflection of both the video and the project. The child's completed book is also shared with the class.

During this project sequence, preservice teachers learn to identify types of repetitive patterns within books. They also learn to choose books that are appropriate to a child's level of development and experience.

Reading II—Literature Response Journals and Groups

Upon successful completion of Reading I, students continue into Reading II. This course concentrates on the development of meaning vocabulary and comprehension, particularly in the content areas and the upper elementary and middle school grades.

For the initial literature response experience, two or more pieces of intermediate or middle school literature, with the same theme, are selected by the instructors. Each class member then chooses one of the books to read; the instructor suggests that at least three students choose a common text so that literature discussion groups can be formed. Using individual response journals, students make predictions about their books based on the title and front and back covers. Each book is divided into two parts which are assigned to be read outside of class. Students are asked to make journal entries as each chapter is read. These entries can include comments, revisions of predictions, questions, interesting or new vocabulary, and connections to their own experiences.

Using their journals as prompts, students meet twice to discuss the assigned chapters with others reading the same book. Groups containing one or more students from each discussion group later discuss and chart the similarities and differences between the books.

To promote further experience with literature response groups, a second set of literature focused around a central theme is chosen. Possible selections centered around the theme Slavery and the Civil War are *Steal Away . . . To Freedom* by Jennifer Armstrong, *Bull Run* by Paul Fleishman, *The Perilous Road* by William O. Steele, *Brady* by Jean Fritz, and *The Slave Dancer* by Paula Fox. Students sign up in groups of two to four for the book they want to read. Each student also purchases a copy of a designated nonfiction resource. For the Slavery/Civil War Unit an appropriate choice would be *Behind the Blue and the Gray* by Delia Ray.

To help facilitate students' experience with choosing fiction and nonfiction books to support a thematic unit, instructors also introduce a number of other theme-related resources. These resources are available for students to browse through during class breaks.

Each group meets to divide their text into portions according to how many class periods will be available for discussion. After students read the first assigned part, the beginning portion of class time is devoted to discussion of that part of the text using instructor-assigned discussion questions (Cooper, 1993). Students then choose two to four focus questions for the next reading.

Portions of the remaining class sessions are devoted to literature group discussions of the last sections of each book. Students use their literature response journals to record personal observations and comments for the focus questions chosen by the group. After the last group discussion, each literature group prepares and presents a visual representation of their book. Suggested projects include a mural, book jacket, poster, mobile, web, or map.

Comparison groups are formed by "jigsawing" (Slavin, 1980) members of each expert book group. This allows discussion of the similarities and differences in the information and points of view presented within each book. Groups choose various graphic organizers, which have been previously introduced in class, to collate their information.

The preservice teachers' participation in literature discussion groups helps them experience a sense of community, trust, and value for others' opinions and diverse points of view (Ellis & Whalen, 1990). It also allows students to view reading as a transactive process in which they both bring meaning to and take meaning from the reading and the discussion (Peterson and Eeds, 1990). Preparation of a visual representation of each selection gives students insights into alternate ways to share story information.

The use of a variety of texts within the theme allows these preservice teachers to experience the possibilities of literature discussion groups with limited numbers of a particular text. They also learn the value of using a variety of resources to support a thematic unit.

Diagnosis and Remediation—Application

During Diagnosis and Remediation, the capstone course in this sequence, students are expected to apply strategies and concepts learned in all previous courses as they tutor a child with reading difficulties. Thus, after diagnosing a child's level of reading development, students must choose appropriate literature and plan literature-based strategies to develop needed competencies. Strategies and resources developed in previous courses including the literature card files, literature selection guides, and personal collections of literature can be used in this hands-on teaching experience.

Conclusion

Observations

It is the intention of our Elementary Education faculty to help preservice teachers learn strategies for selecting and using literature as a foundation for instruction in elementary classrooms. In addition, we hope to develop a love of children's literature in preservice teachers which will, in turn, be transmitted to their future students.

The development of a love of literature became evident when the college students began to bring in literature of their own to share and discuss in classes. In some classes informal literature discussions took place almost daily during breaks and before classes. Some students consistently ordered books from the book orders each month while others, because of financial restraints, ordered only a few books, usually those introduced in class.

Student response journals gave insights not only into the comprehension of the stories, but also into the process of using literature discussion groups. A large number of students commented that their comprehension was increased because of the purpose questions selected by their group and the opportunity to continually make notes in their journals about their reactions to the reading. Students also shared that the discussion groups increased comprehension and understanding because of the many viewpoints represented. For example, Michelle wrote in her journal, "I knew I had to read for discussion purposes and being able to discuss with the group helped me get a bigger picture." Plus it was interesting to hear all the different points of view which led to several disagreements." Discussion, therefore, broadened the students' understanding of each story and provided new insights based upon individual background knowledge. Yet another perspective was provided when some students shared comments made by their own children, who were reading the same book at home.

A large number of students also commented on benefits to their personal vocabulary development when they recorded words in their journals that were unusual, new, or used in an unfamiliar way in the text. For example, Mari wrote in her journal, "It [reading response journals] has made me stop and think about vocabulary words that I don't know and how to use different strategies to decode them. I used [contextual clues] the most. I think that is how I have always decoded words, but I just never thought about how I actually did this until now." This entry illustrates how students became more aware of the strategies they employ while reading.

One of the final journal entries was prompted by the question, "Will you use literature discussion groups in your elementary classroom? Why or why not?" Students unanimously stated that they saw the benefits of using literature discussion groups, enjoyed the experience themselves, and planned to use them in the future. Rene wrote, "I believe this activity was very beneficial to all of us as students and future teachers, for the best way of learning is to do it for yourself."

Revisions in Progress

The Elementary Education faculty has been pleased with the incorporation of appropriate experiences that link theory to practice; however, reflection and ongoing change have become part of our process of making experiences and courses more meaningful for preservice teachers. We have made several revisions as a result of looking back over the experiences initially described in this article.

The Elementary Education Department has now acquired several literature sets appropriate for use with literature response groups. These text sets were chosen with a variety of themes in mind; some sets can be used with more than one theme. Having these sets will eliminate the uncertainty of depending on book club offerings each semester for appropriate texts centering around a theme and will insure availability of appropriate literature. The availability of these literature sets also allows students within a class to choose a theme they wish to investigate and gives them access to books without having to purchase them.

Using Howard Gardner's (1983) theory of multiple intelligences, as well as David Lazear's (1994) writings about the application of multiple intelligences theory in the classroom, we have introduced a wider variety of literature response activities in the methods classes. These responses focused at different times on a particular "intelligence," i.e. visual spacial, musical rhythmical, bodily kinesthetic, rather than just verbal linguistic or logical mathematical. For example, literature response groups were asked to respond to their book using the visual art medium. Another time they were asked to respond to the text through music. This type of activity allows students to experience response activities through a wider variety of modalities; it also helps them understand the need to offer elementary students a variety of experiences and to value student strengths other than academic.

Although this article details experiences provided through fifteen hours of coursework in one elementary education program, the principles and similar activities could be incorporated into any reading/language arts methods course. Literature-based activities also could be incorporated into social studies, science, and math methods courses by elementary education faculty collaborating or teaming with content area faculty. Elementary education students could then see a model of collaborative interaction while viewing literature as a base for interdisciplinary teaching.

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USING PORTFOLIOS TO ENABLE UNDERGRADUATE PRE-SERVICE TEACHERS TO CONSTRUCT PERSONAL THEORIES OF LITERACY

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Abstract

Scholars have considered that teachers' beliefs have an important influence on classroom practice. The development of a well-defined belief system or theory of instruction is particularly critical to the success of literacy programs which rely on the decision-making ability of teachers in terms of designing appropriate assessment and instruction. The articulation of a coherent system of beliefs is generally considered an important outcome of courses in pre-service teacher education. This article describes the components of a program in which portfolios are used to scaffold the construction of students' personal theories of literacy instruction.

Teacher educators (Wagner, Brock, and Agnew, 1994; Desai, 1993; Ohlhausen and Ford, 1992) typically offer two reasons for implementing portfolios in the methods courses they teach: to instruct students in an innovative assessment technique by providing first-hand experience with portfolios, and to provide for authentic assessment of students' learning of course content. These objectives are certainly valuable. Pressures to cover the curriculum, however, often contribute to a focus on instruction and assessment. Often, opportunities for reflection and self-evaluation are given short shrift.

In developing an undergraduate course on teaching reading in the elementary school, I have explored the possibilities of reversing the traditional order of importance, placing primary emphasis on the reflective nature of portfolios. Although self-assessment is certainly a component of the reflective portfolio, I observed that portfolios also can be used to provide students with an holistic perspective on their experiences in the course. These perspectives often serve as the initial articulation of personal theories of literacy and literacy instruction. When students are challenged to develop, maintain, and assess their own portfolios, two powerful outcomes occur. First, like faint images emerging from the photographer's developing tray, students begin to see their portfolios as imprints of their personal beliefs about literacy and teaching. Second, through an organized system of peer reviews, students become aware that such fundamental concepts as literacy and instruction can be articulated in a wide range of ways.

In this paper, I argue for the importance of enabling pre-service teachers to develop personal theories of literacy instruction, describe a portfolio technique which facilitates the development and articulation of such personal theories, and discuss strengths and limitations of the portfolio process in teacher education.

Portfolios and Personal Theories of Instruction

Critical theorists (Apple, 1968; Shannon, 1990; Goodman, Shannon, Freeman, and Murphy, 1988) suggest that the prevalence of basal reading programs and other commercially-prepared materials for literacy instruction and assessment have essentially resulted in the "de-skilling" of the American teacher. Reliance on rigid curricula, fixed teaching procedures, and standardized assessments subordinate the teacher's role to that of an efficient program manager (Callahan, 1962).

The emergence of whole language (Goodman, 1986) and literature-based instruction (Honig, 1988) as viable alternatives to basal reading programs have refocused attention on the importance of the classroom teacher as a decision-maker in the assessment-instruction process (Lipson and Wixson, 1991). Issues of teacher empowerment and teacher professionalism demand that future teachers be knowledgeable creators and consumers of instructional assessment techniques.

How important is the development of a personal theory or belief system? Pajares (1992) reviewed research on the influence of teachers' beliefs and concluded that "findings suggest a strong relationship between teachers' educational beliefs and their planning, instructional decisions, and classroom practices" (1992, p. 326). Perhaps even more critical to the present discussion, Pajares observed that "recent findings also suggest that educational beliefs of preservice teachers play a pivotal role in their acquisition and interpretation of knowledge and subsequent teaching behavior and that unexplored entering beliefs may be responsible for the perpetuation of antiquated and ineffectual teaching practices" (1992, p. 328). Citing the importance of pre-service teachers' beliefs about teaching, Pajares lamented the paucity of strategies aimed at helping university students articulate their philosophical orientations and priorities.

In their work with in-service teachers, Onore and Lester (1985) described the important role of "distancing" which requires learners "to be removed from the actual learning task to a metacognitive level in which he or she reflects on the experience" (p. 7) as a learner. The authors contended that enabling teachers to explore the underlying mental constructs they have for learning is critical for the construction of appropriate and functional new mental models of instruction. Onore and Lester also suggested that this level of understanding "cannot be transmitted from teacher (inservice leader) to student (teacher-learner)" (p. 12). It would seem reasonable to assume that the transmission of information from teacher educator to pre-service teacher would achieve even less profound results.

Kinzer (1988) explored the relationship between teacher beliefs and instructional practice with respect to literacy instruction. Kinzer concluded that for the subjects involved in his study, "the majority of both pre-service and in-service teachers tended to choose vocabulary and comprehension lessons that were consistent with what they believed about how reading takes place and how reading ability develops" (1988, p. 369).

Schafer et al. (1993) examined the relationship between teachers' beliefs and classroom practice and concluded that classroom teachers who identified themselves as having strong beliefs about literature-based instruction also believed they (and not some external factors) controlled the curriculum. The teachers also said they were comfortable in selecting literature for classroom use and in developing their own instructional materials.

Admittedly, classroom practices are subject to numerous external influences; however, as these studies suggest, teacher behaviors can be influenced by the knowledge and belief systems teachers hold. Importantly, teacher decision-making is not simply a function of knowledge of isolated concepts but also relates to beliefs developed from a series of events (Nespor, 1987). For teacher educators, then, the critical task is not simply to provide students with opportunities to develop expertise and knowledge about teaching, but to enable them to bring to the fore their emerging notions of themselves as teachers and what they believe to be valid and appropriate means for instructing and assessing their students. As Vacca, Vacca and Gove (1991) explain to their readers,

> Teaching and learning alike require connecting the known to the unknown. Whether you are a pre-service or inservice teacher, we hope to make you think about your own belief system, and to show how your beliefs are connected to models, approaches, and instructional strategies (pp. xvi).

Teacher educators have experimented with various techniques to help students get beyond the mere identification of labels to construct personal meanings for the information they are acquiring. Student writing activities such as literacy histories (Stansell, 1993), literacy autobiographies (Meyer, 1993), philosophical drafts (Linn, 1992), and response journals (Valeri-Gold and Olson, 1992) have been used to help students articulate their personal philosophies and belief systems. As Stansell (1993) reported, however, the difficulty with such writing projects is that students may view these as vague assignments imposed on them by the course instructor and not as personally relevant or valuable.

Recently, teacher educators have looked at the potential of portfolios in literacy education courses. Ohlhausen and Ford (1992) used a portfolio self-assessment strategy to foster inquiry-oriented learning with graduate students. French and Foster (1992) developed a portfolio technique to encourage reflective teaching in a graduate level practicum experience.

For undergraduate pre-service teachers, the development of a personal theory of literacy instruction and assessment may pose an even more formidable challenge because undergraduates must make a transition from being a student learning about teaching to becoming a teacher learning about learning. As novices, pre-service teachers may be inclined to focus on specific teaching strategies, but fail to see the connections among strategies or among other aspects of teacher decision-making. In addition, as long as they view themselves primarily as university students, some pre-service teachers may see the ideas presented in their preparation programs as well-defined content to be absorbed rather than as complex ideas to be grappled with and interpreted. The danger is that students may acquire only a superficial or trivial understanding of key ideas.

In my undergraduate course in teaching reading in the elementary school, I have found personal portfolios to be helpful in directing students in the development of their conceptual frameworks. The unique nature of personal portfolios seems to contribute in several powerful ways. Portfolios serve as warehouses or places for students to record insights, feelings and information accumulated over an extended period of time. Portfolios allow students to revisit key events and breakthroughs from new perspectives acquired as a result of experience and increased background knowledge. Portfolios also encourage students to reflect on their experiences over time and to see connections among what might otherwise appear as isolated ideas and events.

Portfolio Procedures: Collecting Data

The portfolio procedure I use, like any form of authentic assessment, is an integral, on-going component of the course. The process is made up of identifiable phases, including: Introduction, Clarification, Organization, Presentation, Reflection, and Evaluation. Each phase is organized around specific tasks and objectives.

Introduction : First Class Meeting

At the first class meeting I describe the portfolio as a component of the course, equivalent to one examination. I also present rationales for creating and maintaining a personal professional portfolio and underscore that the portfolio allows students to search for patterns in their own learning and professional growth.

To a large extent, students find value in each of these objectives. The importance of beginning with a notion of value is the foundation for the development of meaningful portfolios. Interestingly, however, those students who do not initially perceive the development and maintenance of a personal portfolio as a valuable task often come to view the portfolio as meaningful as a result of their participation in this assignment. As one student commented:

> When I first heard about this assignment I didn't like it. I didn't think it would be very useful. Then when I sat down and started working on organizing the stuff I had collected, I really didn't think I would have all that much to put in it. Much to my surprise, my binder became fuller and fuller as I found more things to put in it. I realized that I have a lot more to say about reading than I thought I would.

A key point students find helpful is that not all the artifacts in their personal professional portfolios need to be created by themselves. I make the analogy that a portfolio is similar to a scrapbook or travelogue. Much the same as we would not expect a traveler to create his or her own souvenirs, we might expect to see mementos created by others. Inevitably, however, these artifacts, like treasured souvenirs, reflect some significant aspect of the student's experience and, in turn, some fundamental beliefs about literacy. Examples of this type of artifact might include favorite childhood books, inspirational poems about teaching, or samples of children's work from a field experience. For example, one student categorized a section of her portfolio as "inspiration" and listed the following items:

> I included a poem, a story, and a saying that all tell why I want to be a teacher. Another item I included in this section is the book, *Chicken Soup for the Soul*. It contains 101 stories that are very inspiring for people of any profession. I believe people are "called" to be teachers and the gratification that teachers get is what makes it all worth it.

Clarification

During the course, I clarify questions about purpose, collection procedures, and management. The clarification phase also may reflect students' own clarification of their conceptual frameworks, their definitions of literacy and instruction, their values, their knowledge of professional issues, and technical language. The stage of clarification may be an indicator of students' grappling with ambiguous ideas, concepts, details, and experiences as they attempt to sort out or clarify their own emergent values and beliefs. A student wrote:

> Throughout the semester, I collected items that, at the time, seemed random and unrelated. Now as I reflect back upon these items, I have come to realize that these items are indeed related. Each of these items describe me as an educator of young children and a lifetime learner.

I also hold group activities called "portfolio shares" at regular intervals during the course, providing occasions to clarify ideas, expand boundaries, share professional language, and identify significant topics.

The "portfolio shares" provide an opportunity for students to compare their emergent portfolios with those of their peers and to exchange information about valuable artifacts they have begun to accumulate.

Organization

Toward the end of the sixteen-week course we discuss ways to organize the artifacts students have stored in their portfolios. This organizational task forces students to revisit events and experiences. The organizational task also guides students to see connections among the experiences rather than viewing them as isolated events. Students analyze important categories (e.g. Motivational Inspirational Quotes, Journals, Booklists, Teaching Techniques, Lesson Plans, Professional Literature, Students' Work) and identify breakthrough discoveries or key shifts in personal beliefs which occurred during the semester using specific artifacts to illustrate and support their analyses.

Presentation

Presentation not only enables students to celebrate a semester of exploration and discovery; it also provides an authentic experience in conducting a portfolio conference. The conference has three aims: to provide an attentive audience for the presenter, to provide a source of evaluation, and to set goals for future exploration and development.

Reflection

Students then write a narrative interpretation of their portfolio in which they go beyond summarization. They are challenged to revisit the artifacts in their portfolios, sifting through the contents for the messages they might hold. One student's comment in her narrative captures the spirit of this task:

> Although this portfolio interpretation does not address each item in my portfolio, it does mention the items most important to me personally. I find it fascinating that within my collection of seemingly random items there is a thread that ties and relates each item to the next. This thread represents my educational philosophies and all that teaching involves.

Evaluation

Students are free to evaluate their portfolios in whatever fashion they find meaningful. For students who choose not to develop their own evaluation system, I provide a model. The portfolio analysis plan that I present evaluates the student's portfolio with three criteria: thoroughness, comprehensiveness, and growth over time.

I explain that a portfolio may be considered "thorough" when the artifacts it contains reflect a broad range of topics relevant to personal and professional development. The notion of thoroughness implies that the process of becoming a professional educator entails more than the collection of a few teaching routines. The notion of thoroughness forces students to consider the question, "What should a teacher know?"

I also explain that a portfolio may be "comprehensive" so that groups of artifacts develop a particular category or theme. An article on cooperative learning by itself would be less comprehensive than the same topic represented by a collection that included multiple professional articles, bibliographies, lesson plans for cooperative activities, and classroom samples of students' work from cooperative learning tasks. This aspect of the portfolio is intended to focus students' attention on issues such as, "How well have I represented my understanding of this theme?" and "What are the different implications of this theme?"

Growth over time is reflected in several ways. Students report an elaboration of their understanding and point to their awareness of a variety of strategies pertaining to a particular topic. They also report shifts in their beliefs or provide evidence that reinforced some pre-existing beliefs. One student pointed out that she was now able to support her beliefs with a professional rationale, while previously she only defended them on intuitive grounds:

> I included my "Starting Line" and "Finish Line" because it was very encouraging to me to see how much I could add to my "Starting Line" at the end of the semester. Although I felt pretty comfortable answering the questions on the "Starting Line" handout in the beginning of the semester, as I look back now, I realize that I only had vague ideas about teaching reading and I didn't have much background information to back them up. I definitely think I was able to more firmly establish my beliefs about strategies and approaches to teaching reading after gaining experiences in the field, talking with my peers and other teachers, and reading and reflecting on professional articles.

Students may give themselves points for the quality of their portfolio as measured along the criteria of thoroughness, comprehensiveness, and growth over time. The scoring tasks provide one more occasion for students to revisit their experiences, reflect on their accomplishments, and to set goals for new learning. While this scoring system encourages students to articulate and celebrate their personal and professional development, it also helps students identify areas they need to explore further as life-long learners. As one student observed:

> I started this project out thinking it would be somewhat easy. Now that I have gotten well into the portfolio I realize what a task it really is. I do not know if I will ever be finished gathering stuff for my portfolio. I think it is an ongoing process and can be added to continuously throughout one's career.

Discussion

The portfolio process described above appeared to contribute to preservice teachers' professional development in important ways. The artifacts students collected and the themes they represented also suggested that students who ostensibly experienced the same course came away with their own notions about literacy education. The portfolios reflected the way students incorporated course ideas and merged them with their own beliefs about teaching.

The students were aware of the way the portfolios reflected their unique interpretation of themselves as literacy educators. One student introduced her portfolio by referring to the types of choices she made in selecting items to represent her ideas about literacy:

> In the beginning, the compiling of a portfolio meant something completely different than it does now. I had no idea of the things that I would choose to include or of the things that would naturally follow. I am pleased that at the end of one semester, I feel I have something that represents so much of what I believe to be true about reading education and education in general.

The portfolio process may have been helpful in enabling students to make connections among ideas and experiences. The metacognitive ability to see connections between specific events and their personal development was in itself indicative of personal growth. In addition, the process also appears to have contributed to students' overall sense of self-confidence about teaching. As they reviewed the artifacts in their portfolios students were confronted with tangible evidence of the progress they had made. This was reflected not only in the rich variety of artifacts collected, but to the value students placed on these items. For example, one student wrote in her reflective narrative:

> Compiling and organizing my reading portfolio has given me the chance to review what we've learned and experienced throughout the semester. It has given me a sense of accomplishment, a reminder of the

> resources available to me as a teacher, and a reinforcement of my views and ability as both a reading teacher and general classroom teacher.

Not surprisingly, the process utilized in this course also increased students' understanding of reflective portfolios and how these might be adapted to their own classrooms in the future. Students came away with a set of procedures for implementing portfolios, for directing their own students in ways of collecting and organizing artifacts, for conducting portfolio conferences, and for directing self-evaluation.

With regard to grading, I found that the process described here was more useful as a forum for self-discovery and goal-setting than for my assessment of student learning (Tierney, Carter, and Desai, 1991). The notion that the course instructor would evaluate students' theories of literacy instruction would have been antithetical to the larger aim of this technique. Grades were given for specific course assignments which were not necessarily tied to the portfolio. It was assumed that grading students' portfolios (as a form of assessment) would have constricted diversity and risk-taking.

In fact, students initially exhibited a real apprehension regarding the portfolio and the grading process. So strong is the tradition of assigning grades to student effort that both students and teachers tend to overlook or dismiss the possibility that self-motivation and personal engagement can supersede the drive for grades. Yet, the portfolio process itself appeared to counterweigh this tradition. As one student wrote:

> When I walked into this class in January, I was a student who wanted to become a teacher. I knew I wanted to teach, but how teaching and learning actually occurred [were] still a mystery to me. In the months that followed, I gained more knowledge, theoretical and practical, than I have in all my three previous years here. I feel there are several reasons for this: 1) for the first time in college, I was motivated to do work for myself, not for a professor; 2) the classes presented me with practical knowledge; 3) the knowledge was used in immediate practical field experiences; and 4) through a series of events I was able to see my personal and professional growth.

Perhaps, the students might have constructed similar portfolios without making it an "assignment" and course requirement. The preservice teachers eventually used the portfolios to celebrate their own transitions from "students" to "teachers." The portfolio process was intended as a scaffold, to support students in the construction of personally-meaningful theoretical orientations towards literacy and literacy instruction.

Students who explored literacy education through portfolios experienced numerous opportunities to use professional language in purposeful ways. They evidenced their comfort with "teacher talk." This talk appeared to run

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much deeper than a casual acquaintance with education jargon. As students shared their portfolios, as they wrote their reflective summaries, and as they evaluated their own professional development they demonstrated that they had done more than learn about literacy teaching. They had begun to think as literacy teachers because they had begun to think *of themselves* as literacy teachers. I believe the professional portfolios captured this competency in a unique way and would suggest that the process of constructing, maintaining, organizing, and evaluating a portfolio contributed to this metamorphosis.

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Literacy in Elementary and Secondary Classrooms

EXPLORERS OF THE UNIVERSE: A PILOT CASE STUDY

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Abstract

This paper reports on an action-research study that investigated the learning contexts high school students employed when they were engaged as researchers of variable stars. Seven students enrolled in an astronomy class participated. These students worked in teams of two and three and collected information that dealt with the initial phase of a six phase case-based investigation. Evaluation consisted of student constructed concept maps, log entries, working portfolios, and collaborative papers. Preliminary results of phase one indicate that students used a variety of learning contexts that focused on process to achieve their understanding of variable stars. The discussion focuses on the ways in which these students were readjusting their prior notions when confronted with problem-oriented authentic tasks and assignments.

The "Explorers of the Universe" is an educational scientific literacy project under the joint auspices of the Tennessee State University (TSU) College of Education and the Center of Excellence in Information Systems—Astrophysics Component. This project is designed to stimulate an interest in astronomy among elementary, middle, and secondary students.

In this forum, students actively participate and learn science in a collaborative format with their teachers, university educators, community resources, people, and practicing scientists. Teachers and their students are invited to explore the universe in ways that identify and seek resolutions to

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The University School of Nashville World Wide Web home page address is: http://www.tbr.state.tn.us/~rodriguezb/

unsolved problems using critical and imaginative thinking. The project is based on the concept that learning is achieved when students can integrate their informal learning experiences with their formal in-school experiences. Lessons are designed to include authentic tasks and materials related to students' world knowledge, interest, and experience.

Rationale

In many school experiences, students find themselves believing that success in school is equated with "knowing" the facts of a given body of knowledge rather than "learning" how new knowledge can be related to their informal and formal learning experiences (Alvarez, 1993). Much school learning consists of rote memorization of facts with little emphasis on meaningful interpretations. For example, students often are asked to solve scientific problems and conduct laboratory experiments in a rote rather than meaningful way (Novak, 1988, 1990). Often, science knowledge is assumed to be absolute and students are viewed as passive recipients of information (Driver, 1987; Schwab, 1962). In such instances, reading assignments are given, lessons are reviewed, and question-answering is equated with producing "right" answers. Under these circumstances, knowledge construction is reduced to factual knowledge production with little regard for critical and imaginative thinking, problem solving, or clarification of ambiguities.

Texts often are written to support acquisition of factual knowledge. The language of the textbook or laboratory manual is often vague, with ill-defined concepts or lists of facts that are not situated in a context that encourages students to relate new concepts to their prior knowledge. Many laboratory manuals are designed so that students answer questions in a "cookbook" type format. Students write in factual information and then move to another laboratory exercise that contains more of the same types of questions and responses. Little effort is expended on decision-making and reflection. Seldom are facts and ideas related to students' everyday experiences or to other disciplines (Donham, 1949; Erickson, 1984; Eylon & Linn, 1988; Sarason, 1990; Schwab, Westbury & Wilkof, 1978). In addition, students may lack or misconstrue links between text concepts, resulting in a failure to assimilate and accommodate new knowledge into their cognitive structures (Novak, Gowin, and Johansen, 1983).

Observation of the ways in which students pursue and resolve open-ended assignments can provide valuable insights for teachers who are planning for individual student needs. The ways in which students create their own learning contexts when confronted with authentic problem-oriented tasks is an important issue that may influence instruction and learning. Learning contexts are those mental models (conceptual frameworks) that students invoke when confronted with problem-oriented tasks that go beyond memorizing and compartmentalizing information. Mental models represent a person's construal of existing knowledge and/or of new information even though this information may be fragmented, inaccurate, or inconsistent (Gentner & Gentner, 1983). A person's mental model is a mental representation of a particular belief based on their existing knowledge. Holt (1969, 1989) states that our mental models change when we explore the world around us and create knowledge out of our own questions, thoughts, and experiences. In essence, a mental model is comprised of our personal organization of world knowledge and experience; it represents our perception of reality (Alvarez, 1990).

This article focuses on the initial stages of the Explorers of the Universe project with a case study of seven students in one high school who investigated variable stars. This case study focuses on the characteristics exhibited by the individuals and groups as they researched an astrophysics problem dealing with variable stars. The ways in which students explored their variable star cases using hierarchical concept maps and vee diagrams were an important aspect of this inquiry.

The variable star cases researched by these students were in narrative form. They differed from other forms of case-based instruction in which cases are fully developed and are conventionally examined by topic in single and/or in sequential stages by most, if not all, members of a class (Alvarez, 1993). In contrast, these variable star cases consisted of open-ended questions for students to explore and research. The intent of these cases was to allow students to use and expand their personal experience and initiative in pursuing outcomes, thereby creating a learning context in which knowledge and experience would become active rather than inert. The teacher's role was that of a facilitator who guided student inquiry and directed students to related sources on the internet or to other persons such as astronomers who could provide references.

Over a period of time, the researchers (a university educator and classroom teacher) are looking at the learning contexts students employ as they pursue their respective cases. Specifically, we are interested in how students use and modify their mental models as they explore the world and universe and construct knowledge from their own questions, thoughts, and experiences. This paper represents the first phase of our investigation.

Method

Subjects

Seven students enrolled in an astronomy class, totaling 13 students grades 9-12, participated in this phase of the study. The students worked in teams of two or three. Team A (Katherine and Ben) consisted of one White female and one White male who were twelfth graders. Team B (Rahul, Manisha and

Gustavo) had three senior students: an Indian male, Indian female, and a Hispanic male. A senior White female and a tenth grade White male (Katherine and Isaac) comprised team C.

Research Design

There are a myriad of contextual variables influencing schools and classrooms (e.g., community, culture, school ethos, socioeconomic background, teacher cognitive style, etc.) that tend to preclude traditional educational research with true experimental designs. In order for teachers to be researchers of their classrooms they need to better understand and assess individual student progress. Action research is a paradigm that is grounded in the reality of classroom culture and is under the control of teachers. Findings emanating from this type of research investigation inform teachers and can guide their practice when they formulate lessons and conduct future classroom research projects.

This investigation is grounded in the principles of action research. Action research is defined as the investigation of an event, problem, or an idea by an individual or group directly involved in gathering and studying the information for themselves, who then use the results to address specific problems within a classroom, school, program, organization, or community (Alvarez, in press). Action research is accomplished through a recursive cycle of (1) identifying an idea or problem area, (2) studying it by gathering data, and (3) reflecting on the data to make hunches. The data derived from this type of research is emergent and requires the teacher to engage in reflective thinking as it evolves.

Action research seems to lend itself to a project such as this, where both the teacher and students are learning together through observations, reflections, and modifications that occur as the investigation ensues. In this project, the teacher monitored the ways in which students pursued their paths of inquiry during their research. Thus, while the teacher was conducting action research (a case study of the students' learning), the students also were conducting action research (case studies of variable stars).

With regard to the students' work as action-researchers, it seemed that an astrophysics project was especially suitable. There is a basic difference between astrophysics and other branches of physics. Astrophysics is *observational* in nature, where the other branches of physics are *experimental*. In solid-state physics, properties of a given material can be studied by taking a sample of that material and subjecting it to a variety of tests in a laboratory. In the process, its responses to various conditions can be isolated by varying those conditions in a controlled way. In contrast, the objects studied in astronomy are so far removed that their environment cannot be manipulated and therefore they must be observed as they appear.

Materials/Apparatus

In this project students used a required textbook and supplementary readings that coincided with their inquiry. Student and teacher-constructed hierarchical concept maps and vee diagrams were also used (Alvarez & Risko, 1987, 1993; Gowin, 1993; Novak, 1990; Novak & Gowin, 1984). Concept maps and vee diagrams are tools that are used to regulate and monitor one's own thinking. They serve to promote self-analysis and critical thinking. When constructing and sharing the concept map with others, an individual is able to rethink and reflect upon the ideas visually portrayed. In revising the map, the individual is able to capture these reflections and represent these reformulated ideas in ways that are better understood. Likewise, the vee diagram enables the learner to plan how the case will be researched. Both sides of the vee (conceptual and methodological) are interactive in this process (Gowin, 1993; 1981). The vee allows the learner to think about how the research will be undertaken; it also provides a basis for the data collection, transformations, and knowledge claims that are necessary to reach a resolution.

The apparatus in this project consisted of binoculars, small and automatic telescopes, computer terminals, and specially designed software. The telescopes included: (1) the Fairborn Observatory 10-in automatic telescope (APT), and the Vanderbilt/TSU 32-in (APT) located atop Mt. Hopkins, equipped with a photoelectric photometer and the (2) the Dyer Observatory Seyfert 24-in Cassegrain Corrector-Reflector telescope equipped with a photoelectric photometer, a CCD (Charge Coupled Device) camera, a 24-in objective prism, photographic cameras, a slit spectrograph, and 12-in Cassegrain reflector telescopes.

Procedures

All thirteen astronomy students were pretested on terms and concepts dealing with astronomy and astrophysics. However, the researchers focused on seven of these thirteen students who were working in teams investigating variable stars. During this study the seven students were in the initial phase of their investigations. These investigations will eventually evolve into specific cases examining variable stars.

The variable stars project consists of six phases in which students conduct their case-based research: (1) Initial Background Questions, (2) Identifying Variable Stars in Archival Data, (3) Classifying Variable Stars, (4) Analyzing Archival Variable Star Data, (5) Visual Observation of Variable Stars, and (6) Photoelectric Observation of Variable Stars on Automatic Telescopes.

During phase one, the students investigated five questions in progression: (1) What is a star? (2) What techniques are used to observe stars? (3) What are some properties of stars? (4) What are variable stars? and (5) What can variable stars tell us about other stars and the universe? Students also posed their own questions and were given guidelines for answering these systematically. In this first phase, teams A and B studied "What is a star?" The other team investigated "Cepheid Variables."

The high school physics and astronomy teacher (second author) and his students were taught by the university educator (first author) to use hierarchical concept maps and vee diagrams following the procedures suggested by Alvarez and Risko, (1993), Gowin (1981), Novak (1990), and Novak and Gowin, (1984). Concept maps were constructed by both the university educator and the teacher to visually display the relationship of ideas and to serve as instruments to verify, clarify, or revise ideas. Vee diagrams were constructed by the educator, teacher, and students to plan the astronomical research investigations. The vee diagrams constructed by the teacher and his students were shared with the university educator for review and discussion.

Concept maps and vee diagrams of this data also were compared and evaluated using Novak and Gowin's (1984) method of assessment. Within this assessment, learning paradigms of the astronomers and the educator were analyzed. Journals were kept by the university educator and the teacher who recorded events that transpired during their discussions with students.

In addition, students also were asked to keep a log of the reference materials they consulted and the persons they interviewed (e.g., other teachers, librarians, persons in the community, relatives, scientists, and so forth). During each phase, students also entered their notes, observations, findings, log notations, data analyses, and so forth onto a text file that served as a resource for other students. This text file included student working papers, concept maps, vee diagrams, and video segments of events or objects they captured. This collection became a part of each student's computer-based working portfolio and was used as a tool for self-assessment and knowledge mediation between teacher and peers.

Once all six phases of the variable star cases are completed, information on each completed case will be pressed onto a compact disc. This disc will serve as a repository to be accessed by other students in the same class, succeeding classes, or in other participating schools. This disc will serve two purposes. First, it will change a short-term investigation into a longitudinal one in that students entering this course will continue in the data analyses of these selected variable stars. Entering students also will engage in their own initial short-term variable star projects that eventually will add to the data base and become longitudinal studies. Second, the astronomers at TSU will be able to learn more about the stars from these ongoing observations and data analyses by students. The Tennessee State University Learning Methods Laboratory housed in the Department of Teaching and Learning, College of Education, serves as the hub for this computer-based technology. Support personnel are available for consulation with schools.

Findings

Preliminary findings in phase one of this project suggest that the students are using a variety of learning contexts in pursuing their cases. Cooperative learning and discussion with one another and the teacher are continuous. An example illustrates how two students, Rahul and Gustavo (members of Team B), developed an awareness concerning how much and what kinds of information were needed when studying stars. The regular classroom teacher, when discussing the project with these two students, discovered that they believe they have acquired too much information. The following excerpt is from the journal kept by the teacher related to his discussion with Gustavo:

> [The students] felt that they had done more than enough research and had to somehow cut down the information and make sure they dealt with their original topic questions. Part of the problem was that the more information they acquired, the more questions they asked and the better questions they asked.
>
> [Paraphrasing part of my conversation with Gustavo]
>
> **G**: Please explain exactly how we determine what a star will become as it burns out and "dies."
>
> **T**: What type of star are you asking about?
>
> **G**: Any star. It seems that the more we read and talk about the life cycle of stars, the more careful we must be in asking our questions! But, it seems we can get better answers now than we did earlier in the case study.
>
> **T**: This is neat. You have reached the point in which you know enough information to ask good questions. Questions that you can state very precisely to achieve an answer that is meaningful and also useful. It also means that you have developed a complete enough understanding of a star that you can begin to see that the early information you found was oversimplified and not well-stated!
>
> [We went on to discuss the fates of various types and sizes of stars]

Another example illustrates how these two students began to seek advice from other teachers in the school. An entry from the log of Gustavo and Rahul demonstrates how literature in the discipline of English became incorporated into their astronomy class. Rahul writes:

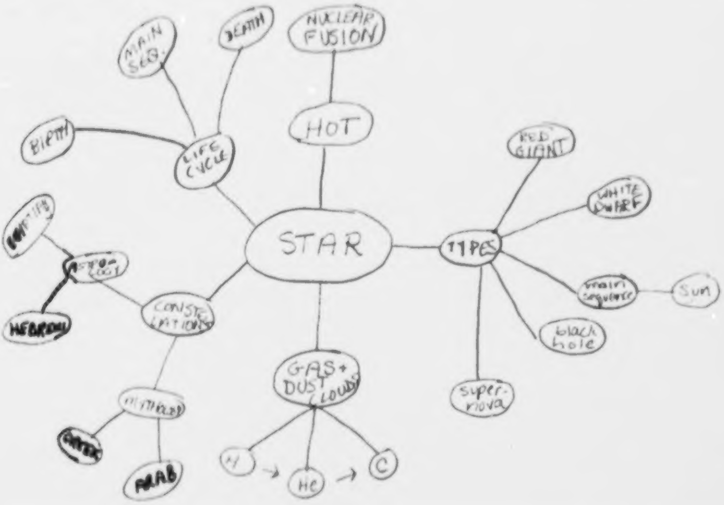
> I talked to Mrs. C about stars in literature.
>
> - in lit. [literature] stars relate to light, & represent wisdom & knowledge.
> - they're also an indication that something has happened.
> - guidance (Christ) & vastness (Arnold [poet]) [author's note: this statement appears as written with brackets by the student].

- symbolize goodness ("lucky stars").
- Also talked to Mrs. B
- gave me books on how stars have influence on the destiny of man & stars in religion.
- *Brewer's Dictionary of Phrase & Fable*
- *Oxford English Dictionary* (D.B.D.)

Revealing Ideas with Hierarchical Concept Maps

When confronted with a problem-oriented task, students typically set as their priority finding ways to get at the "product." The process is of less urgency than the final product. For example, at first Katherine and Ben (Team A), attempted to generate their student-based case research by centering on "finishing the assignment." After deliberating on their approach to the problem question, they began their collaboration process. Collaboration to them meant, "You take this part and I'll take that part." Katherine focused on the scientific aspect of the investigation, while Ben gathered information on the humanities perspective. When asked to construct a concept map showing arrangements and relationships between ideas, Katherine stated that she was familiar with mapping and she and Ben constructed a visual map in the form of a semantic web (Figure 1).

Figure 1. Katherine and Ben's First Map


MAIN SEQ.
DEATH
NUCLEAR FUSION
HOT
BIRTH
LIFE CYCLE
RED GIANT
WHITE DWARF
STAR
TYPES
ASTROLOGY
HEBREW
CONSTELLATIONS
main sequence
Sun
black hole
super-nova
GAS + DUST CLOUDS
MYTHOLOGY
GREEK
ARAB
H
He
C

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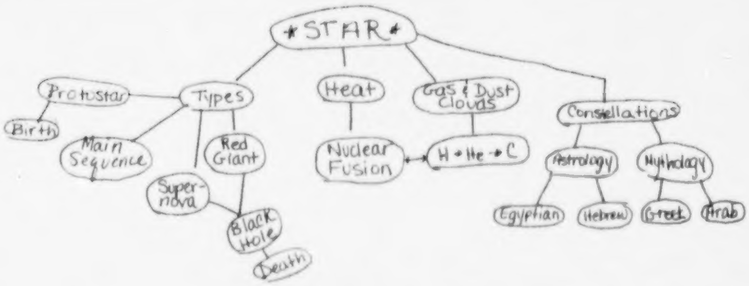
Their premise of combining the scientific with the humanities perspective was interesting. However, when creating their semantic map each had taken two components and pieced them together. While the semantic web (Figure 1) depicted both the scientific and humanities aspects of the case, the relationships between the two were ambiguous. The left side, showing the humanities, had as its main components the "life cycle" and "constellations." Off shoots of the life cycle were death, main sequence, and birth. "Astrology" and "mythology" together with their respective subcategories comprised constellations. These components, on the left, were separated from the scientific middle and right portions of the web. The middle of the web had as its main component gas and dust clouds with the chemical symbols H→He→C represented in a segmented self-contained circle. "Hot" designated the other main category with nuclear fission as its subcomponent. Types, depicted on the right side of the web, had as off shoots "red giant," "white dwarf," "black hole," "supernova," and "main sequence." "Main sequence" had a corresponding line connecting to the Sun.

Each student had completed one segment of the map and then pieced them together, thus, the humanities and scientific portions were not integrated. This type of "piecemeal" compilation also occurred in their writing. It was evident, when reading their paper, that each had done a separate piece and then stapled them together. They were then asked to review their semantic web, rethink their ideas, and redo the map in a hierarchical format. Hierarchical concept maps seem to aid students in organizing and showing clearer relationships between concepts (Novak & Gowin, 1984).

A review of their revised hierarchical map (Figure 2) showed that Katherine's and Ben's ideas were clearly depicted. The new map showed relationships between their two perspectives: scientific and humanities. More importantly, the students now better understood how these concepts were related to each other and could use this new information to formulate ideas for the next stage of their case. For example, the superordinate concept "Star" had as its major components "Types," "Heat," "Gas & Dust Clouds," and "Constellations." "Heat" had replaced "Hot" on the semantic web. The rearrangement of the components depicted a clearer relationship between the scientific and humanities perspectives. "Protostar," with a connecting line to birth, was added as a component to "Types." "Death" was rearranged under the subcomponent "black hole." "Nuclear Fusion" was a subcomponent of "Heat" and was related to the chemical components of the "Gas & Dust Cloud" by an arrow. These chemical symbols, segmented in the web, were now encircled as one body. The humanities were depicted under "Constellations" with its subcomponents "astrology" showing Egyptians and Hebrews, and "mythology" displaying the Greeks and Arabs.

Figure 2. Katherine and Ben's Second Map



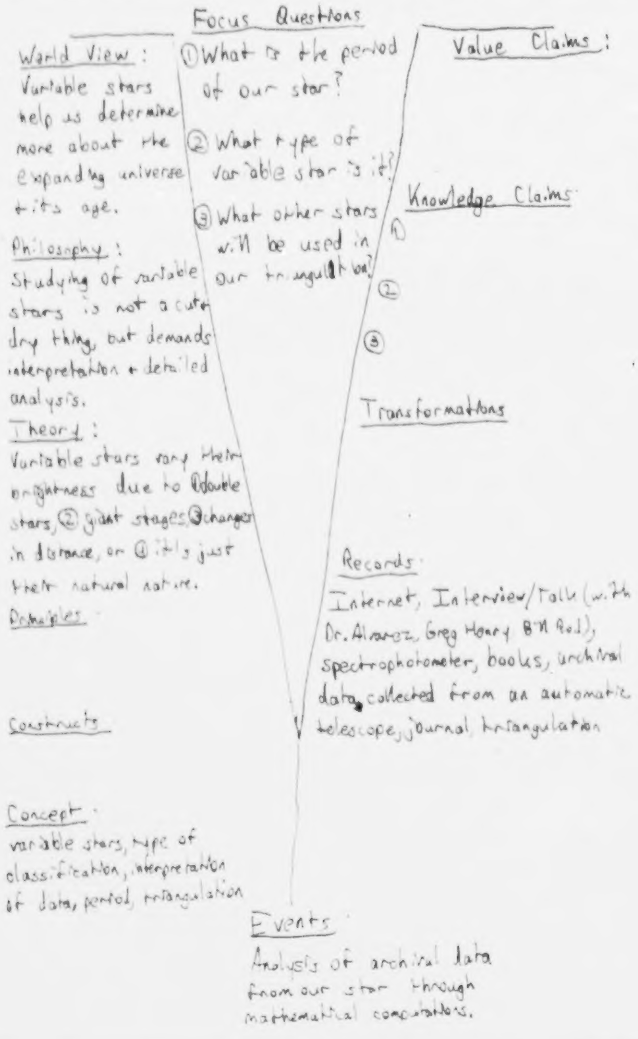
Thus, the map served as a negotiating instrument between two students, the teacher, and their textbook. Their ideas and the concepts presented in the text became clearer and more meaningful as they were discussed and mapped. The visual map seemed to serve as a tool to help students clarify ambiguities, resolve discrepancies, and engage in reflective thinking. It also served as a template from which the students could rewrite their paper on this initial phase of their case study.

Constructing Knowledge with Vee Diagrams

The vee diagram was being used by these students to plan each phase of their student-researched case. At first, they had difficulty understanding the epistemic elements arranged on the vee (Gowin 1981, 1993). After meeting with the university educator, they seemed to have a better grasp of how the epistemic elements operate interactively between the conceptual and methodological sides of the vee, along with a greater understanding of their function. This enabled the students to visualize and conceptualize the paths that their investigations would take.

An example of Team B's vee diagram appears in Figure 3. In this vee the students' research questions were formulated, the events were described, and the concepts related to their investigation needing explanation were listed. The students' records indicate how they plan to collect their data. They first stated a theory based on their review of the literature. As their study with this phase of the variable star project continues to unfold, the students will transform their data by organizing it onto a chart, table, figure, or some other form. They will then be able to insert their knowledge claims related to the research questions that they have posed for themselves, determine the value of the claims, and establish principles that refer to the theory.

Figure 3. Manisha, Gustavo, and Rahul's Vee Diagram



Focus Questions

① What is the period of our star?

② What type of variable star is it?

③ What other stars will be used in our triangulation?

World View:
Variable stars help us determine more about the expanding universe + its age.

Philosophy:
Studying of variable stars is not a cut + dry thing, but demands interpretation + detailed analysis.

Theory:
Variable stars vary their brightness due to ① double stars, ② giant stages, ③ changes in distance, or ④ it's just their natural nature.

Principles

Constructs

Concept:
variable stars, type of classification, interpretation of data, period, triangulation

Value Claims:

Knowledge Claims:

①

②

③

Transformations

Records:
Internet, Interview/Talk (with Dr. Alvarez, Greg Henry, Bill Rod.), spectrophotometer, books, archival data collected from an automatic telescope, journal, triangulation

Events
Analysis of archival data from our star through mathematical computations.

Working Papers on the WWW

In developing their case around variable stars, Gustavo, Rahul and Manisha (Team B) researched the types of variable stars and decided which of the investigated stars they wanted to place on the automatic photoelectronic telescope (APT) for data analysis. They are currently in the process of adding "links" to their original paper, which has been converted into an HTML document and placed on the World Wide Web (WWW). This, as well as other documents, can be accessed from the University School of Nashville home page (see address at beginning of this article).

These links elaborate on the information presented in a paper by linking images and other documents already on the Web. The students are cross-referencing their text document information by highlighting specific features of their text to connect to other sources and to other text documents prepared by their classmates. For example, one paper in the section describing "The Life Cycle of a Star" explains events that a majority of stars go through during their span and directs the reader to papers by the other team members on the topic of "Supernova."

In their work students use the EiNet Galaxy Network (MCOM Corporation) and the Lycos index (Carnegie Mellon University) to internet resources. These data bases provide a series of links to additional information on the electronic network. Library research for these students also includes using electronic software such as Netscape Communications Universe and Lynx to search the World Wide Web.

Team C, Katherine and Isaac, have completed their research on the types of variable stars and have chosen a star to be placed on the APT as well as imaged by Berkeley for comparison and animation purposes. Isaac and Katherine are more knowledgeable at this point than the other groups. Both have read extensively about variable stars and are adept at discussing the types and characteristics. They have also begun a vee diagram to guide them in their research.

The researchers have found that the students become more critical of their written text after it is displayed on WWW because of feedback from outside readers. As a consequence, the students become more conscious of their writing style and presentation format. In a significant sense, feedback from readers whom they don't know has raised their level of consciousness about their research investigation. Preparing papers and visual representations in a familiar setting for one's own peer review in a class or by the teacher is one circumstance; preparing documents for unfamiliar faces is another.

Mediating Knowledge Paradigms

From observing and listening to students' reactions, we found differences between the groups. One group is working very effectively as a collaborative unit in which all share equally in every aspect of the study. The other two groups are best described as cooperative groups in which there has been a "divide and conquer" mentality. The three student teams are progressing at different rates in their initial studies, thus time schedules must be flexible as students pursue different paths of inquiry.

In their self-evaluation, the team that finished their initial stage first was the least satisfied with their work. The students in this group raised interesting questions that demonstrate that they were questioning their own work. For example, they paraphrased their questions and formulated opinions about textbooks: "Why do astronomy books assume knowledge about terms when they are supposed to be introductory texts?" "Much of the information in the texts is superficial and rote in nature. There doesn't [sic] seem to be good explanations, examples, or pictures of the information."

The students in all groups had a general feeling of incompleteness about their respective case. They enjoyed the concept of an open-ended research project, but had difficulty setting it in motion. They were always worried that it "would be due" tomorrow, even when assured that this would not be the circumstance. One student best expressed the sentiments felt by the others: "Usually we are asked to pick a single sentence thesis and defend it. Here we are allowed to roam and then define a topic. Then we can do further research in areas we really get interested in."

Discussion

A meaningful aspect of this study was the manner in which individuals deliberately chose to relate new information to their existing world knowledge and how this newly acquired information influenced their knowledge and decision-making. This study further indicates that conceptual learning and application of written discourse and scientific inquiry across the disciplines through an emergent curriculum using innovative technology can create a *community of thinkers*. In the communities created, knowledge was shared and ideas were valued.

Learning of the subject matter has occurred, but of more interest and importance is that the students have begun to look at how they think, learn, and ask questions. They have analyzed sources carefully and have tried to identify new sources of information. Each of the three teams has taken steps to further their knowledge on specific areas. For example, the group that completed the first stage of their case then decided to electronically correspond with two astronomers (at Tennessee State University and Vanderbilt University) in order to ask for more detailed information about main sequence stars. Both astronomers responded with information that directed these students toward new references.

In past situations, their teacher had observed that these students approached many assignments using a "canned" method. This method was driven by a "product" motive of finishing an assignment with a tangible piece of work. To accomplish this, students relied on past successes, repeating the same type of organization and thought. Imaginative and critical thinking was seen as "time consuming" and "taking too much effort." When faced with a choice between selecting an avenue of absolutes leading to correctness and a high grade, as opposed to a path of uncertainty concerning teacher expectations, the former path was embraced. The student-driven case-based research of this project, however, engaged students in the processes necessary to apply learned information to novel situations. While studying astronomy and astrophysics, these students contributed to class discussions with specific information and conjecture based on rationalized thought. They were paired according to personality and work traits based on teacher observation and developed their cases as a scientist would when studying unknown phenomena. They are now in the process of placing stars on automatic telescopes and analyzing data never before studied.

As this study unfolds, we are gaining insight into how curiosity and the notion of "trusting relations" with a teacher (McDermott, 1977) can lead to innovative reasoning through diversified learning contexts using open-ended learning tasks. Accumulating facts for a written or mathematical problem solving test has taken on a new dimension because the students are coming to realize that facts are temporary and that answers are not absolute. Ideas are becoming more prominent in these students' writings. Student hierarchical concept maps and vee diagrams are requiring negotiation among the students. Exchanges between peers, teachers, astronomers, and information appearing on the World Wide Web are fostering a community of critical and imaginative thinkers.

As noted by Alvarez (1993), critical and imaginative thinking occurs when students are encouraged to pursue varied learning contexts with problem-oriented tasks using authentic materials. We are finding that students in the current study are looking at different ways of accomplishing their research objectives. This process requires that students readjust and modify their questions and research techniques as they delve into an extensive array of resources. Authentic learning tasks provide these students with multiple perspectives from which to engage in learning contexts that stimulate their imagination with future possiblities. As they explore different pathways and incorporate and apply other subject disciplines into their investigations, their scientific, mathematical, and literacy skills become more useful and meaningful.

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CHILDREN AS LITERACY RESEARCHERS

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Abstract

This study provided second grade students the opportunity to actively participate as literacy co-researchers in order to provide insight into literate environments. The young researchers concluded that literate classroom environments are rich in physical, psychological, and social characteristics. The process of determining literate environments created another research avenue, that of children as literacy researchers. They displayed their metacognitive awareness in the research process by questioning, gathering and analyzing data, and drawing conclusions.

Children involved in their own literacy learning have been viewed as active constructors of language. Smith (1988) explains that literacy develops from the "inside out," implying that children construct meaning about reading and writing as they interact with people, processes, and things within their environment. Since children play such an active role in their own literacy learning, researchers have relied on them as curriculum informants (Sulzby, 1991; Tierney, 1991; Dyson, 1988; Harste, Short, & Burke, 1988; Paley, 1986; Woodward, 1985; Harste, Woodward, & Burke, 1984). Relying upon students as informants provides insight into their thinking and learning processes (Erickson, 1982).

When children serve as curriculum informants, alternative means of gathering information are often used by researchers to conduct their inquiry (Martinez & Roser, 1991). One such alternative is to expand the child's role as informant to include that of co-researcher. A co-researcher is considered a "co-worker in the research process" (Dexter, 1970). As co-researchers, the students become part of a collaborative research team in order to provide a different perspective for the research process. This multiperspective inquiry is important because students do not have the same visual and spatial experiences as adult researchers. They are not just observing the context of the classroom; they are an important part of it.

By expanding the boundaries of current literacy research, second grade students in this study take on the active role of co-researcher. This new research role encourages students to question, observe, reflect, and share information and perspectives. These perspectives provide the research process with insights customarily overlooked. This collaborative research process is guided by the following question: As active co-researchers, will second grade students develop a metacognitive awareness of the research process? More specifically, will the primary students develop the ability to think about the research process? This involves task, strategy, and performance awareness (Reynolds, Wade, Trathen, & Lapan, 1989).

Method

Theoretical Rationale

This study focuses on a natural classroom setting, thereby lending itself to a descriptive, field-based, theory-building form of inquiry. This in turn makes it both advantageous and feasible for students to take on the role of co-researcher. Hence, a qualitative paradigm becomes the foundation for this study's design.

According to Sherman & Webb (1988), "The aim of qualitative research is not verification of a predetermined idea, but discovery that leads to new insights" (p. 5). Qualitative research methods establish an interactive process that entails immersion into the everyday lives of the participants to discover their actions and beliefs. Qualitative research has the aim of understanding experience as the informants feel it or live it (Sherman & Webb, 1988).

People everywhere learn their culture by observing and interacting with others. They become "experts" and can be a great source of information. Therefore, qualitative research relies on the participants within the culture to be informants. The qualitative researcher "wants those who are studied to speak for themselves" (Sherman & Webb, 1988, p. 5). More specifically, the informants become the "teachers" while researchers become the "learners." Qualitative research relies on descriptions of the subjects' activities and thoughts and feelings about themselves (Stotsky & Mall, 1991).

Students can be heard as both informants and co-researchers (Farrell, 1988; Ferrell & Compton, 1986; Koppelman, 1979) because qualitative research reports account for both informants' and co-researchers' perceptions

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and biases (Goetz & LeCompte, 1984). In addition, since children construct their voices from their environment, Sulzby (1991) believes encouraging children to participate in the research environment will further develop their metacognitive awareness of the research process.

Co-Researchers

The participants in this study were four second grade students from a lower-middle class urban school district. The four students (Marsha, Jack, Daniel, Roger) took an active role in the research process as co-researchers. These children were chosen because of their varied experiences in the classroom. Specifically, they were in a literature-based, first grade classroom and, the following year, were placed in a skill-based second grade class. During second grade, the children worked collaboratively with an adult co-researcher who facilitated the research process.

Discussion of Co-Researchers' Research Process

As co-researchers, the students and the adult investigated a topic of mutual interest, literate classroom environments. Specifically, they set out to determine what classroom environment was best for helping children become better readers and writers. The children's interest in the research process, intuitive nature, and concern for their own literacy development became the rationale for their new role.

The co-researchers worked together as a research team during collaborative group sessions. Three times a week for a six-month period, the co-researchers met for approximately twenty to thirty minutes. During the initial group meetings, the adult co-researcher explained the research process including purposes, methodology, data analysis, and the second graders' role in it. The students were invited to participate in the research process and they accepted this role. At this time the adult co-researcher also emphasized that consensus was not necessary and that each opinion would be respected. As co-researchers, the students were encouraged to be independent thinkers and were assured it was appropriate to disagree.

One specific incident that reinforced independent thinking and the idea that respect for all co-researchers was important occurred when Roger asked, "Will Mrs. Long let us move our desks where we want?" While brainstorming possible solutions to this question, Jack spoke up and said "I don't want to ask Mrs. Long this question." He continued, "I don't like this question." When asked if he would like to share his reasoning, Jack responded, "If we ask her she will be mad at us and then wouldn't let us ever move." Jack's concern about the teacher's reaction led the co-researchers to an alternative method of gathering information. The remaining students still wanted to determine what would happen if Mrs. Long was asked if students' desks could be moved. However, the co-researchers respected Jack's concerns and established observation as the means of methodology rather than teacher interview. Marsha, Daniel, and Roger decided to wait and see what would result if another student in the class asked to be moved. This observation took place for a period of over two weeks. One other desk was moved during this time. The reason this desk was moved was due to one student disturbing another. Therefore, based on the previous seating arrangements and the changes that were observed, the co-researchers concluded that students' desks were only moved if problems arose. The alternative methodology and the role Jack played in the process of answering this question reinforced what the adult co-researcher stressed throughout the research process, the concept of respect.

Over the next few group sessions, the co-researchers discussed data gathering methods. They were asked to think about the various ways they find out information. The co-researchers acknowledged that they "see things" (observation), "ask questions" (interview), and "gather things" (document analysis) in order to "find information." Triangulation was then introduced. The adult co-researcher explained that researchers must gather a variety of information to ensure that they are drawing appropriate conclusions. A "Calvin and Hobbes" cartoon was used to help the students understand that more than one way to gather information is needed because information gathered may not always be accurate. In the cartoon, Hobbes gathers information from Calvin's shirt as a means of determining where Calvin came from. By the end of the strip, both characters are confused by the information gathered. The adult co-researcher asked the young students to identify other ways Calvin and Hobbes could determine where Calvin came from. A discussion then followed about the importance of gathering information in a variety of ways.

During the research process, the co-researchers first generated questions that would help them determine characteristics of literate environments. They then discussed possible solutions and brainstormed and implemented different data-collection methods (observation, interview, document analysis) to seek a solution for each question generated. After the data were collected, the co-researchers shared, discussed, coded, and categorized their data during group sessions. This analysis directed the research process until categories became "theoretically saturated" (Glaser & Strauss, 1967, p. 111); at this point conclusions were drawn. To document how the co-researchers carried out their responsibilities, all sessions were tape recorded. An abridged transcription of four consecutive group sessions that illustrate the research process follows in Table 1.

Table 1. Abridged Transcription of the Research Process

Initiating Group Session

A.C.: Has anyone come up with a new question?
Daniel: I did. Why do we have two chalkboards?
A.C.: That's a wonderful question Daniel. Does anyone know why there are two chalkboards in the classroom?
Marsha: We have two chalkboards because maybe somebody ordered too many.
Roger: Maybe Mrs. Long wanted two chalkboards.
Jack: Roger, I don't think you are right. All the rooms have two chalkboards.
Roger: Well, maybe all the teachers asked for two.
A.C.: Daniel, why do you think there are two chalkboards in the class room?
Daniel: I don't know.
A.C.: What do we have to do to find out? What are some ways?
Jack: Ask the teacher.
A.C.: Yes, that's a good idea. Who else could you possibly ask besides the teacher?
Roger: Principal.
A.C.: So, Daniel what do you think we should do?
Daniel: I am going to ask Mrs. Long. She'll know.

Next Group Session

A.C.: Did anyone find out why there are two chalkboards in your room?
Roger: No.
Marsha: No.
Daniel: I forgot to ask.
Jack: I didn't ask but I know why. Today Mrs. Long had to write on the board and she had to use the other board for the list of words.
Marsha: Yea, Mrs. Long ran out of space.
A.C.: Ok, so maybe that's the reason. Do we know for sure that is the reason why there are two chalkboards?
Daniel: No.
A.C.: What are we going to do so that we can be sure?
Daniel: Ask the teacher. I will go ask her.

Next Group Session

Roger: Guess what! I tried to ask Mrs. Long why and she said, "I'll tell you later" and then the day was over and she didn't tell us the answer.
A.C.: Well, is there anyone else who would know?
Jack: The principal would.

Daniel: Yea, he would because he would tell the people who built the school buildings how to do it.
Roger: I'll ask him tonight. I got detention anyhow.

Next Group Session

Jack: Guess what? we used the other chalkboard today in math.
Marsha: Yea, now we know for sure. We see Mrs. Long using it.
Roger: And I know for sure, for sure. The Principal told me when I went to detention that all classrooms have two chalkboards so the teachers will have enough room.
Daniel: Well, we answered that one.
A.C.: Now let's talk about what we found out to make sure. Daniel this was your question. Can you tell us what data we have?
Daniel: The principal told us the teacher needs to have enough room.
Jack: Yea, and I saw Mrs. Long use it.
Marsha: Me too.
Roger: I saw her twice.
A.C.: So what can we conclude? What can we say about why there are two chalkboards in the classroom?
Daniel: Because the teachers need space to write on.
A.C.: Do we agree? Remember you don't have to.
Daniel: Yes.
Roger: I do.
Marsha: Yes.
Jack: Yep.
A.C.: Me too. So we concluded that two chalkboards give the teacher more space to write on.

The first group session presents the process of generating a question, creating solutions for the question, and brainstorming methodology in order to answer the question. The next three sessions display the process the co-researchers followed to gather information, analyze the data, and draw conclusions. This process was used throughout the research.

Results

Co-Researchers' Awareness of the Research Process

The co-researchers sought to determine characteristics of literate classroom environments. The generation of questions related to this topic initially created difficulty for the children co-researchers, who had to be prodded to think of questions related to the predetermined theme. A few probing questions asked by the adult co-researcher were: "What would you like to learn about your classroom?" "Does anyone have a question they would like answered about the classroom environment?" "Does Mrs. Long do anything in the classroom you do not understand?" and "Think about your first and second grade classrooms; were they the same? Different?" The co-researchers were redirected at times through discussions and asked to focus on the topic of literate classroom environments. As time went on, developing questions became easier for the students.

The types of questions that were generated by the co-researchers ranged from concrete to more abstract. A sample of concrete level questions follow: "Why do we have balloons on the closet?" "Why does the classroom have two chalkboards?" and "Why do we have numbers on our name tags?" More abstract questions, such as: "Why is there school?" "Why do we have book contests?" "How does Mrs. Long know if we have read our books during free reading?" and "What books should we have in our room?" evolved over time.

To answer the questions generated, various data gathering methods were utilized. The most common method was interview. They interviewed the teacher, other students, parents, and the principal. In the following statements the co-researchers explain why interviews were relied upon most often: "It is easy to ask questions, the other people who have to answer have the hard part," "All you have to do is ask and listen," and "You have to ask or you wouldn't find out."

The co-researchers also observed the teacher, students, and use of classroom materials. Their recognition that observation was an important means of gathering information was confirmed by the following statements: "You observe people because you can actually see what the people did," "You can see what they do," "To see if they are really doing what they say," and "You can tell by watching the stuff they do, how they feel, like embarrassed."

In addition, the co-researchers recognized the value of documented material such as work samples, lists, and journals as sources of data. This understanding was illustrated with such statements as: "Journals help us learn about people," and "My work tells you what I know." The co-researchers' journals contained book lists, class reflections, observation checklists, and field notes. They relied more upon their journals than any other documented material and these journals became both a tool and a source of data.

Data analysis for each question began once the questions were established. Throughout the research process the data gathered for each question were analyzed by all the co-researchers. Under the guidance of the adult co-researcher, the students demonstrated that they were able to determine when more information was needed and when conclusions could be determined. This insight was expressed in the following comments: "Now we know for sure," "I know for sure, for sure," and "Well, we answered that one." As this cycle continued and the co-researchers' self confidence grew, data analysis became easier for the child co-researchers and less guidance by the adult co-researcher was required.

After all data were gathered and analyzed for each question, answers were established and verified. All data were then further discussed and re-analyzed during final group sessions in order to determine characteristics of literate classroom environments.

Child Co-Researchers' Literacy Perspectives

With assistance from the adult co-researcher, the second grade co-researchers concluded that a literate classroom environment is rich in three areas: physical, psychological, and social characteristics. They decided that these domains work together and influence one another to create an environment where students can develop into readers and writers.

The co-researchers decided that a literate classroom is a print-rich, organized environment. For example, according to Jack, "All classrooms need chalkboards" because, "They have words on them." Marsha says she relies upon the alphabet chart because the "ABCs help me spell." Roger and Daniel both acknowledge the need for wall decorations to help us "remember our job." Daniel especially appreciates the student mail boxes because they provide a "place to put my papers." For the other informants, space is also an important factor. These feelings are apparent in the following statements: "We need more space to work," "We have been telling her we need more space," and "I wish we didn't have so many kids in our class."

Within this organized environment, the child co-researchers emphasized the need for a variety of materials and activities to match their individual needs, interests, and abilities. Daniel believes the literate environment has "more fun stuff" and "chapter books." Marsha adds that, "learning books and fun books" and "more games" are part of a literate environment. Jack reiterates the need for a variety of materials and activities because "we all don't read the same books." He continues, "I get bored doing the same thing in reading." Finally, Jack states discerningly, "We all like different things."

In addition to a variety of materials and activities, the co-researchers believed a literate environment incorporates a functional, integrated curriculum. Roger thinks that an integrated curriculum helps him learn because, "When you hear it a lot, it is easier to learn." For Marsha an integrated curriculum provides opportunities so "we can practice" what is being studied. Jack believes the integrated curriculum is important, but he recognizes that it needs to be functional in order for him to "learn to read stuff in the store and learn to write letters." Marsha expands upon Jack's idea when she stresses the need to learn to write in case you "have to write a message to your mom." Roger believes the functional curriculum is important because in stores you need "to read and do math." Daniel sums up the importance of a functional curriculum for developing literacy learning with the following statement: "If you couldn't read, you couldn't do things, all kind of things."

To assist in literacy learning, the co-researchers want to take on responsibilities and be given opportunities to make choices. Marsha explains she likes it when "Mrs. Long gives us jobs so we can be responsible." She continues, "My Daddy says I need to be more responsible." Jack wishes this responsibility would involve letting him "write on the chalkboard." He, however, accepts the teacher's reasoning for not letting the class do so. Roger would like more responsibility in the area of instructional decision-making with the opportunity to "decide what to do in the morning instead of those papers."

Making choices is important to all the co-researchers. Desired choices are represented by the following statements: "I want to sit by the library," "I wish I could sit anywhere I want," "I want to read or play games during free reading," and "I want to work with my friends."

Finally, students believed that interacting with other students was important for developing literacy skills. Roger says these interactions are necessary because "we can help each other learn better." Marsha expresses similar beliefs when she states, "When you sit by a friend you can help each other learn." Student interactions are important for Jack because "I like someone helping me." Roger points out, "Sitting in groups like last year is better then sitting by yourself." He continues, "I learn a lot." However, when Daniel sits by his friends he comments "I need a little space so they won't copy."

Along with peer collaboration, the co-researchers recognized the need for teacher assistance. Marsha expresses her desire for teacher assistance by stating, "I think the teacher should help us if our friend can't." Jack has come to rely upon the teacher and wants "the teacher to help me." Daniel states, "The teacher can't leave the room when we are working." He continues, "I might need help."

In summary, the co-researchers' findings on literate classroom environments can be grouped into three domains: physical, psychological, and social. They decided that a combination of these components creates a classroom environment that meets individual needs, abilities, and interests.

Discussion

This study invited second grade students to take on active roles as co-researchers in order to explore the nature of literate classroom environments. Throughout the research process the co-researchers generated questions, gathered and analyzed data, and drew conclusions. When encouraged and guided, they became active researchers and developed metacognitive awareness of the research process.

For example, the children were able to carry out the tasks of questioning, brainstorming possible solutions, establishing and implementing various forms of methodology, analyzing data, and drawing conclusions based upon the data gathered. They relied on various strategies as well as awareness of the research experience in order to carry out their tasks.

In addition, when encouraged and given the opportunity, the students learned to generate questions and helped to draw conclusions about literate environments. After some guided experiences, the co-researchers "learned to think about questions." They emphasized, "Everybody has questions," therefore, "asking questions was not that hard." With time, questioning became an easier task and many questions evolved. One co-researcher believed that "in a whole year we will probably be coming up with one thousand questions."

Once questions were derived, the co-researchers recognized a need for answers to the questions. To facilitate this process, collaborative discussions helped the students brainstorm possible solutions and select methodology to gather information. Many different ways to discover answers evolved during the research process. Observation, interviews, and document analysis were the most common methods implemented by the co-researchers. Interviews tended to be relied upon most frequently because "it was easy to ask questions."

Once the methodology was determined, the co-researchers actively gathered information. They learned that an initial means of data gathering may not work and that researchers sometimes must seek alternative means of inquiry.

Data analysis was the most complex step for the co-researchers. Analyzing various answers to the research questions called for collaboration and a real sense of teamwork. The co-researchers needed both time and assistance to code and draw conclusions. Group discussions helped the co-researchers learn to cooperate, listen to others, accept others' opinions, and respect others as researchers.

Time, however, was a limiting factor in the co-researchers' group sessions. Due to the class schedule and format, the co-researchers had to miss class time in order to meet. When the co-researchers left the classroom for group discussions, the remainder of the second grade students were busy learning social studies. Missing class time was both exciting and frustrating for the co-researchers. The students really enjoyed the informal collaborative atmosphere and felt special about being part of the research team. At the same time, they were also concerned about what they were missing in class.

With time, the research process became easier for the young co-researchers. The co-researchers believed, "The more questions we ask and answer, the easier it gets." They learned about the research process by being actively involved in it. A few co-researchers' responses that explained their understanding of the research process include: "I learned how to question," "I learned how to find answers to questions," "I learned everybody has questions," and "I learned if I have a question, ask it and not to be shy."

In addition to gaining knowledge about the research process, the co-researchers believed they learned from the data they were gathering. Some of their responses confirmed that research was a learning process: "We learn from other people," "I learned lots of things by researching," "I learned why we do things in school," and "I learned about our classroom."

The students believed research helped them locate information. They said that research was: "Finding information," "Finding something out," "I think it is coming up with all kinds of questions and finding them out," and "When you research you find some stuff out and you can help somebody and use that to tell other people how to do things." Since research was "finding information" co-researchers were aware they could "research at home," "you can research anywhere," and "you can research anytime and anywhere."

These second grade students came to enjoy the research process as they developed more self-confidence. When asked if they would take on the role of co-researcher again, all answered "yes."

Inviting second graders to take an active role in the research process resulted in the articulation of the students' metacognitive awareness of the research process. When placed in the research environment, they carried out the task of researching, relied upon various strategies, and became aware of the research process and their role in it. This collaborative research also invited students to share their ideas. Student voices have traditionally been ignored, especially children's perspectives about the research process.

Second graders need to be recognized and respected for their metacognitive abilities as literacy researchers. When given responsibility and guidance as co-researchers, children can "learn new things they did not know" by questioning, gathering and analyzing data, and finally, by drawing conclusions.

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EIGHTH-GRADE STUDENTS' USE OF CONCEPT CIRCLE DIAGRAMS FOR MEANINGFUL LEARNING FROM SCIENCE TEXT

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Abstract

The present research sought to explore eighth graders' use of a comprehension strategy, Concept Circle Diagrams (CCD's) *(Wandersee, 1987), for meaningful learning from science text. Based on Ausubelian assimilation theory, the strategy enables students to visually represent and monitor their understanding of new concepts and their relationships through graphics (size, arrangement, and coloring of circles) and expository prose (diagram titles, concept labels, and explanatory sentences). In this study, students worked individually and in small groups to construct diagrams and to evaluate their peers' representations, while the teacher worked to monitor their understanding and to provide guidance when necessary. Over a four-week period, students generated increasingly more complex diagrams that reflected their growing understanding of the topic. Further, the teacher became more aware of her students' misconceptions about science, textbook information that contributed to these misconceptions, and ways to facilitate conceptual change.*

In a 1983 curriculum proposal, Watson argued that "an essential goal of science education is to encourage students to develop into independent learners—able to acquire information from many sources, to weigh alternatives, and to reach defensible conclusions" (p. 62). However, in the past decade, research has shown that teaching and learning still adhere to a unidirectional pattern in which (a) teachers lecture and assign textbook readings, and (b) students read, take notes, memorize, and recall this information (Finley, 1991). To break this traditional routine, reform efforts have called for new views of teaching and learning processes and, concomitantly, new roles for teachers and students (Shymansky & Kyle, 1992).

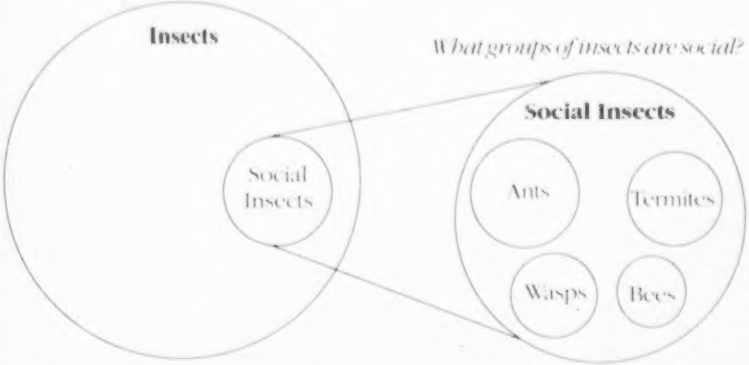
To meet this challenge, science education has increasingly adopted a *constructivist* model of learning which emphasizes the interaction of the student's prior knowledge, the context for learning, and the teacher's guidance for meaning construction. In this model, students assume roles as active meaning makers, rather than rote learners. According to Pope and Gilbert (1983): "An emphasis is now placed upon the active person reaching out to make sense of events by engaging in the construction and interpretation of individual experiences" (p. 194). Further, teachers assume roles as scaffolders of learning, rather than authorities for information. "Instead of giving children a task and measuring how well they do or how badly they fail, one can . . . observe how much and what kind of help they need in order to complete the task successfully" (Newman, Griffin, & Cole, 1989, p. 77).

The purpose of the present study was to explore eighth graders' use of one particular comprehension strategy, Concept Circle Diagrams or CCD's (Wandersee, 1987). This strategy is intended to promote students' active learning from text as well as to increase teachers' efforts to facilitate this learning. This strategy is grounded in Ausubel's (1968) theory of assimilation for learning and builds upon Novak's (1990) research on concept mapping as an assimilation tool. In concept mapping, learners generate a visual representation where superordinate and subordinate concepts are structured in a descending order to indicate hierarchy and are connected by lines to indicate relational ties. Based on research results (Novak, 1990; Wandersee, 1990), concept mapping has been found to be successful as a tool for learning and assessment purposes.

While CCD's also are intended to show concepts and their relationships, they differ from concept maps in their graphic representation of hierarchical as well as inclusive–exclusive relationships. According to Wandersee (1990), "CCD's may be defined as two–dimensional geometric figures (circles) which are isomorphic with the conceptual structure of a particular piece of knowledge and are accompanied by a title, concept labels, and an explanatory sentence" (p. 929). For drawing, students use a template with different–sized circle holes; larger circles depict superordinate concepts while smaller circles depict subordinate concepts. The circles are then arranged and colored to indicate the relationship among them. That is, a larger circle incorporating smaller circles shows a hierarchial relationships. In addition, coloring in the larger circle indicates an inclusive relationship (no subordinate concepts have been omitted) while not coloring (leaving white) indicates an exclusive relationship (not all subordinate concepts are present). Further, more complex diagrams may be connected through a "telescoping" technique that allows closer examination of a selected subordinate concept; that is, the subordinate concept becomes a superordinate concept, with appropriate circle arrangement, title, labels, and explanation. (See Figure 1 for an example diagram.)

Figure 1. An example of a concept circle diagram with telescoping.

How many insects are social insects?



There are about 800,000 known different kinds of insects (species) of which about 8,000 are social insects.

There are about 4,500 known species of ants, 2,000 of termites, 800 of wasps, and 500 of bees. These are all social insects.

Based on diagrammatic construction, CCD's become both an active learning tool for students as well as a diagnostic tool for teachers. That is, by including both visual representation and expository prose in diagram construction, students work toward a coherent understanding of a concept. In addition, these diagrams enable teachers to identify students' conceptual difficulties as well as possible sources of these difficulties, such as the class textbook, and to provide instruction where necessary. Thus students are involved as active participants in their own learning, while teachers are involved as facilitators of conceptual change and understanding.

To date, only two studies have examined the use of CCD's in actual classroom learning situations. In Wandersee and Nobles' (1990) exploratory study, a trained instructor taught sixth– and seventh–grade science classes the use of CCD's twice a week for approximately three weeks. Based on her classroom observations and interviews, the researchers concluded that the students not only mastered the technique but enjoyed using it, particularly the aspects of coloring and telescoping. In a follow–up study, Nobles (1993) observed two fifth–grade science classes receiving either concept circle diagram instruction or traditional instruction over an eight–week period. She found that students receiving concept circle diagram instruction significantly outperformed their peers on an objective and short–answer task.

Building on these earlier studies, the present research studied how middle school science students used CCD's during a four–week science unit on radioactivity. Specifically, this research focused on the students as they worked individually and in small groups to construct diagrams and to evaluate their peer's representations. Further, this research used multiple data sources, including student diagrams, teacher and student evaluations, student journal entries, and an evaluation measure to monitor the students' progress, as well as utilized two researchers for data collection and triangulation.

Method

Participants and Setting

Participants were members of an eighth–grade science class at a laboratory school in a major southeastern university. According to the principal, the school enrolled 721 students in grades K–12, with a nearly equal proportion of females and males and a racial diversity of 80% white students and 20% minority students, predominately African American. The 27 science students reflected the school's population in terms of gender and race, and, according to the classroom teacher, ranged in science achievement levels from low to very high.

The classroom teacher, a white female with 10 years of elementary through undergraduate–level teaching experience in science education, served as a teacher–researcher in this study. That is, her knowledge of the classroom participants, routines, and interactions enabled her to view the classroom as a dynamic process and to collect and interpret data from an informed perspective (Martin, 1987). A second researcher, a white female with 20 years of elementary through graduate–level teaching experience in reading education, served as an observer, taking field notes of classroom interactions and activities. Both researchers were knowledgeable about the use of different learning strategies, including the use of concept circle diagramming.

Materials

Instructional materials included a chapter on radioactivity from the class textbook, *Physical Science* (Lamb, Cuevas, & Lehrman, 1989), following the school's regular curriculum plan. Support materials consisted of excerpts from other texts and informational sources (e.g., brochures from a utilities company) on radioactivity, as well as slides and overhead transparencies depicting visual representations of the major concepts. Students' journals were used throughout the school year to record the students' personal experiences with science; for this study, two entries on CCD's were assigned. Concept circle templates for drawing diagrams consisted of 16 1/2 cm X 21 cm plastic sheets with five holes arranged in descending order of size (8 cm, 6 1/2 cm, 5 1/2 cm, 5 cm, and 3 cm). An evaluation of the students' conceptual learning was a vocabulary measure consisting of 15 vocabulary terms pertinent to the unit; the students were asked to define and explain relationships among 10 terms of their choice.

Procedure

The study was carried out over four weeks at the beginning of the school's second semester in the participants' regular classroom. The teacher followed the class's normal routine, incorporating the strategy into her unit plans. The observer was introduced as a teacher educator interested in the students' work in science learning. Because the laboratory school was open to the university community, the students were accustomed to such visitors and their presence in the classroom.

During the first semester, the teacher had introduced the notion of a *concept* as a pattern or regularity in objects or events (e.g., Novak & Gowin, 1984). Using this definition, she had stressed the recognition of concepts to her students throughout their studies, using both verbal (e.g., text) and visual (e.g., charts) for instruction and practice. For example, in discussing the periodic table, she had emphasized patterns of periodicity across elements as well as patterns found within family groups. In response, the students had sought to identify additional patterns through individual and small group efforts.

At the beginning of the second semester, the teacher first reviewed the notion of concepts, stressing the definition and discussing examples non–examples. Next, she introduced the new subject of *radioactivity*, outlining the major topics and providing objectives for learning. Then, over the next four weeks, the class engaged in reading and writing tasks, large and small group activities, a laboratory experiment involving construction of a cloud chamber, an in–class visit from a utility company representative, and an on–campus field trip to a cobalt–60 pit at the university's nuclear science center. During this time, the students constructed four CCD's in conjunction with their textbook readings.

During the first week, the students were introduced to and given practice in concept circle diagram construction. First, the teacher asked the students to read three chapter sections on radioactive elements and to select any five major concepts from each section. On the next day, she introduced the purpose and use of CCD's and modeled the construction of a diagram, drawing circles and providing a title, concept labels, and explanatory sentence. Then, the students selected one concept from their own list and drew a simple diagram, following the teacher's model. As they worked, the teacher circulated among the students to answer questions regarding content and the strategy.

On the following day, the students were asked to exchange their diagrams with a classmate and to evaluate their peer's drawing, based on the criteria presented the previous day. When finished, the teacher collected the diagrams and accompanying comments and evaluated both according to content accuracy and mastery of technique. When these were returned, the students discussed their selection of concepts and reviewed their diagrams and peer evaluations. For the final activity, the students were asked to write an entry in their journals on their thoughts about using CCD's, for example, their purpose, their construction, and their benefit for learning.

During the second week, the teacher asked the students to read two chapter sections on using radiation and again to select any five concepts from the reading. On the following day, she reviewed the use and construction of CCD's and introduced the technique of telescoping from one concept to another. For this diagram activity, she asked the students to break into self-selected small groups of three members to identify a concept and to construct a group diagram that included telescoping. Again, the teacher circulated from group to group, facilitating the students' interactions and guiding them through the drawing process. On the next day, the students evaluated each other's drawing, similar to the first evaluation procedure. That is, the groups exchanged papers, discussed their peers' diagram, and provided written comments. The teacher collected all papers and again evaluated both the diagrams and the comments. As the final activity, the groups met to discuss their diagrams and to review their evaluations.

During the third week, the teacher assigned the final three chapter sections on nuclear reactions and asked the students to again select five concepts from the text. On the following day, she reviewed concept circle diagram construction and introduced the use of coloring to show hierarchical relationships (different colors) and inclusive/exclusive relationships (coloring/no coloring of large circle). For diagram construction, the students worked individually, selecting a concept and completing a complex graphic with both telescoping and coloring techniques, while the teacher provided assistance. On the next day, the same evaluation procedure was used, including both peer and teacher comments; in addition, the students reviewed and discussed their diagrams as a final activity.

During the last week, the teacher asked the students to review all chapter sections. Then, on the following day, the students broke into small groups of three members to construct a fourth diagram that included telescoping and coloring; for this diagram, they could choose either a new or familiar concept from the text. Again, the teacher provided assistance as she moved from group to group. For this assignment, only the teacher evaluated the completed diagrams. On the next day, the students completed a second journal entry on their personal use of CCD's. A week later, the students completed the evaluation measure on their knowledge of vocabulary and their relationships. That is, they were asked to define pertinent terms as well as to explain the relationships among them and to provide examples.

Results

To examine the data, the researchers used constant comparative analysis (Miles & Huberman, 1984) to search for patterns across the multiple sources. These included (a) the students' individual and group diagrams, (b) their individual and group evaluations of their peers' work, (c) their journal entries, (d) the teacher's evaluations of both the students' diagrams and their comments, (e) the vocabulary evaluation, and (f) the observer's notes on class interactions and activities. Guiding the analysis were questions of students' strategy development and concept development over the four weeks. These data were triangulated across sources and researchers in an attempt to validate an occurrence as well as to control for possible biases.

Based on the analysis, patterns emerged within and across the four diagram constructions. These generally focused on the students' drawing techniques and conceptual understanding, as well as their thoughts about the strategy, and the teacher's recognition of the students' misconceptions and possible sources that contributed to their misunderstanding. The results are presented in a linear fashion to show development of strategy learning application and concept development over the period of data collection.

For the first diagram construction, students generally chose the same superordinate and subordinate concepts, as well as similar titles, labels, and explanatory sentences, based on explicit text information. That is, the text read: "Types of Radiation. Three major types of radiation are given off by radioactive elements: alpha decay, beta decay, and gamma decay" (Lamb et al., 1989, p. 394). In response, the students usually chose (a) "types of radiation" as the diagram title, (b) radiation as the superordinate concept, (c) alpha decay, beta decay, and gamma decay as subordinate concepts, and (d) "There are three types of radiation: alpha, beta, and gamma" as the explanation. In addition, their graphic representation of these concepts (circle size and arrangement) matched their expository writings (title, label, explanation).

However, a few students, while choosing the same concepts, did not demonstrate the same accurate understanding as reflected in their diagrams. For example, one student drew a more complex diagram with three hierarchical levels of concepts: (a) radioactivity, (b) radiation, and (c) alpha rays, beta rays, and gamma rays. Here, two misconceptions were noted: (a) radiation is a superordinate concept to radioactivity, and (b) while gamma is a ray, alpha and beta are particles. In seeking the source of his misconceptions, the teacher noted that the text passage was misleading; that is, it appeared to substitute terms, such as radiation and radioactivity, for one another and linked the three subordinate concepts together.

In addition, the students' evaluations of their classmates' work generally reflected their understanding of the criteria used for diagramming. For example, they noted if the titles, labels, and explanations were present and if the graphic included two hierarchical levels of concepts. However, they included fewer comments about the accuracy of the content, perhaps due to an uncertainty about their own understanding. This also was noted in their first journal entries about using CCD's. That is, while they felt the technique itself (e.g., drawing the circles) was easy, they felt that demonstrating the relationship among concepts, both through circle arrangement and required expository writings, was more difficult.

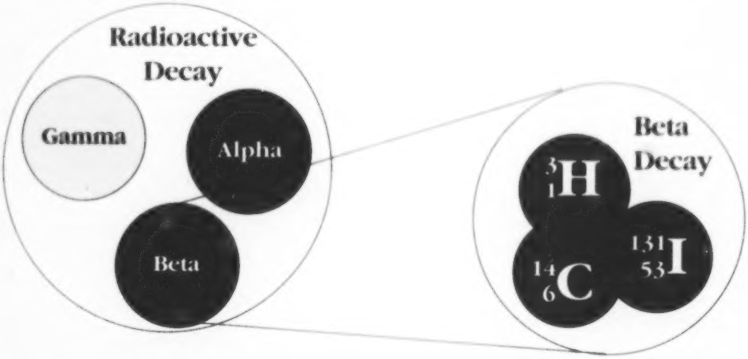
For the second diagram construction, the student groups focused on one of two textbook sections, "Measuring Radioactivity" or "Uses of Radioisotopes," for their concept selection and diagramming. Generally, their drawings were simple but accurate, with one superordinate concept and one subordinate concept, with telescoping from the latter. For example, one group chose radioactivity and devices as concepts in the main diagram, with devices and types of devices, cloud chamber, Geiger counter, electroscope, and dosimeter, in the telescoped diagram. In evaluating these second diagrams, both the peer groups and the teacher noted more problems with technique than with the content, for example, a missing title or too lengthy explanations. In addition, the teacher noticed attempts at telescoping from two or more subordinate concepts in nearly half the groups, who constructed more complex diagrams.

For the third diagram including telescoping and coloring techniques, the students primarily selected radiation as the superordinate concept, although they varied in their choice of subordinate concepts (e.g., manufactured and natural; hazards and practical uses). Similar to the previous diagram, the students' use of telescoping was accurate, both in technique and content. However, their use of coloring was mixed; that is, while they correctly used different colors to indicate different subordinate concepts, they incorrectly used coloring to indicate both inclusive and exclusive relationships. This confusion also was apparent in the students' evaluations of their peers' work; generally, they did not note when coloring should or should not have been used. In searching for the cause of the confusion, the teacher noted three possible factors: (a) the students' lack of understanding about the rules for coloring, (b) the students' lack of understanding about the nature of inclusive and exclusive relationships, and (c) the textbook's ambiguous wording regarding some concepts. For example, in describing hazards of radiation, the text stated that "Radioactive fallout, radioactive gas, and radioactive waste could be very hazardous" (Lamb et al., 1989, p. 408); based on this sentence, several students believed those three to be the only hazards and thus indicated an incorrect inclusive relationship.

For the final assignment, the student groups selected more difficult concepts to diagram and produced more technically accurate, graphically complex, and conceptually sophisticated drawings. First, while given a choice of selecting a familiar or new concept, the majority of groups chose a new concept to diagram. In particular, several groups selected *half-life*, a concept ignored by all the students when working individually. In addition, their representations of the superordinate and subordinate concepts were generally well done; they accurately depicted hierarchical as well as inclusive/exclusive relationships, perhaps due to the teacher's review following the previous diagram construction. While a few groups still colored their largest circle showing an incorrect inclusive relationship, their response to the teacher indicated a deliberate violation of coloring rules rather than a lack of understanding. Further, their titles, labels, and explanatory sentences indicated an increase in conceptual sophistication; that is, rather than copy from the textbook (e.g., manufactured), they used their own terms (e.g., artificial, manmade) and explanations. (See Figure 2 for a sample diagram.)

Figure 2. A student sample of a concept circle diagram with telescoping.

Some types of radioactive decay



This shows some types of radioactive decay such as Alpha, Gamma, and Beta.

These are elements that give off beta decay.

The students' final journal entries also were revealing about the use of CCD's and their own learning. For example, one student wrote that "CCD's do help me think about concepts and their relationships . . . I think the specific purposes for making CCDs are to put a lot of info into a simple chart so people can understand it better and faster." A second student noted that "I think that it [concept circle diagram] is a trap to make you think. I think that the relationship is important but that the thinking is imperative. It gets your brain going. . . ." Finally, a third student commented that "I can now understand about us thinking about what we know and what we don't know." None of the students offered a negative comment about the strategy, although such comments had appeared about other topics.

Finally, the students' knowledge of vocabulary terms and their relationships was reflected on the evaluation measure, administered a week following the unit. The class average was 95% on definitions, explanations, and examples of relationships. Further, although not required, students demonstrated their understanding following a concept circle diagram model; for example, some focused on superordinate and subordinate concepts and how they were related.

Discussion

The purpose of the present study was to explore middle school students' use of a comprehension strategy, CCD's, for meaningful learning from science text. While the research was limited to one class studying one topic over four weeks, the results were encouraging. That is, based on the different data sources, it appears that the students felt that they were active learners, rather than passive recipients, as they struggled to understand the new concepts and their relationships. In addition, the teacher was able to use these data sources to recognize where misconceptions were present and factors possibly contributing to these misunderstandings, and then to provide appropriate review and instruction. Finally, the students' evaluation results indicated a conceptual understanding of the topic, focusing on vocabulary and relationships.

These results support previous findings regarding the use of CCD's in promoting students' active learning of and interest in new science topics. That is, as an active learning strategy, the students attempted to use their prior knowledge to understand new, perhaps conflicting concepts and relationships, and to graphically depict their understanding. As noted by the teacher and the observer, several students initially hurried through their diagrams, assuming construction to be an easy task; however, once evaluated, they realized the extent of thought required for an accurate representation. As one student remarked: "It's really not that hard but if you rush through it then you are surely going to miss out on something that could have not happened if you were to just slow down and think about what you are doing."

Further, this study extends the earlier findings in several ways. First, in addition to individual students' construction of diagrams, the present research also used small group contexts. As noted by Champagne and Klopfer (1991), social interaction can produce change in both understanding and cognitive skills. Based on the observer's notes of group interactions and the groups' completed diagrams, the students worked to negotiate their selection and understanding of a concept and its relationships as well as the actual drawing and expository writings. Also, based on their journal entries, they felt that they learned more by participating in a group than by grappling with new information on their own. As one student commented: "Many students take a lot of thinking in order to make a really good diagram. It took our group a little time, but we had three minds thinking together so it was a lot quicker than just one. Thinking on my own takes me awhile."

In addition, while the earlier studies used only teacher assessment of the students' work, this study also included peer evaluations. As found in research on peer interactions/peer tutoring (e.g., Jenkins & Jenkins, 1987; Newman et al., 1989), students increase their learning when they attempt to understand another's perspective and provide some guidance. As noted in this study, while the students' evaluations initially focused on their peers' technique (e.g., "you only have one title that's used for both circles," "it could have been a little bit neater"), they increasingly provided feedback on content issues. For example, one student evaluator noted that a title, "Different Decays," did not match the explanation which presented similarities as well as differences. Another student, in evaluating *radiation decay* with a telescoping to *shielding*, commented: "I think your idea was excellent, but instead of putting all the decay under one category, you should have telescoped off of them [alpha, beta, gamma] individually and told the shielding [for each]." Further, he explained his reasoning: "Some people who don't know about rays and particles, they may think the shielding for any one is paper."

Finally, while Wandersee (1987) had proposed the strategy as a diagnostic measure, this study was the first to deliberately focus on the teacher's attempts to recognize her students' understandings, to determine a possible cause for misunderstandings, and to provide appropriate instruction. This is supported in part by research on social mediation (e.g., Newman et al., 1989) wherein "the teacher appropriates the child's contributions into her own understanding of the task" (p. 154) and intervenes where necessary. Further, it is supported by research on science textbooks that has found them inconsiderate for students' independent study (Holliday, 1991). For example, the teacher had found that a student had a misconception about the relationship between *radiation* and *radioactivity* and also noted that the textbook provided ambiguous information about these concepts. As a consequence, she used a sample student diagram and the text passage for clarification purposes during a follow–up class discussion.

Given Watson's (1983) assertion regarding the need for independent learners, the use of a strategy such as CCD's may facilitate students' meaningful learning as well as provide teachers with a diagnostic teaching tool. Thus, it is an appropriate approach within a constructivist model of learning.

Future research on CCD's should address its use in other classroom contexts such as different grade levels and in other learning situations such as individual and small group arrangements.

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FAMILY LITERACY

It is becoming increasingly clear that family involvement is a critical component to children's successful development as literacy users. From local school officials to President Clinton himself, educators are hearing the mandate to involve families.

Unlike many mandates we hear from politicians, this one to involve families has a long and compelling history. From Delores Durkin's study of children who learn to read before beginning school without formal instruction in reading to more recent reviews of research related to the effects of parental involvement on children's academic achievement (e.g. Henderson, 1988), it is clear that one of the best ways to improve children's learning is to get families actively and intensively involved in the education of their youngsters.

The papers in the Family Literacy section of the Yearbook continue this tradition of research on parental involvement and refocus our awareness on the importance of families at a variety of levels. Jim Anderson explores how parents from different cultural groups in Canada perceive emergent literacy and emergent literacy practices. He finds that, indeed, differences by cultural groups do exist and he discusses what this finding means for literacy instruction.

Gary Shaffer and George McNinch compare academically advantaged and at-risk children's responses to environmental print. They also report on the ability of the parents to correctly predict their children's success in completing this task.

Jon Shapiro reports on a five-year longitudinal study of home literacy environments of 60 preschool children. His analysis reveals that literacy environments in the home do have a positive impact on children's literacy development.

In my paper, I describe a school-based parent involvement program in reading for children in the primary grades called Fast Start. The program involves parents reading short predictable texts with their children in a highly supportive context. Initial implementations of this inexpensive program suggest modest but positive results for children.

Patricia Linder and Laurie Elish-Piper explore the use of dialogue journals in a family literacy program. They explain that families use literacy for a variety of purposes as they work toward goals and to overcome obstacles in their lives.

The expanding variety of papers presented in this section illustrates the tremendous possibilities that exist for significant research and for improving children's and adult's literacy learning. Clearly, the ultimate potential of literacy instruction and literacy research will not be fulfilled until the roles of parents and families are adequately addressed.

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HOW PARENTS PERCEIVE LITERACY ACQUISITION: A CROSS-CULTURAL STUDY

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Abstract

The purpose of this study was to ascertain perceptions of early literacy held by parents of young children from different cultural groups. The participants were thirty parents selected equally from three cultural groups (Chinese-Canadian, Euro-Canadian, Indo-Canadian) whose primary grade children attended kindergarten, grade one or grade two in three schools located in diverse areas of Vancouver, British Columbia. Recorded interviews were conducted with each parent using the Parents' Perceptions of Literacy Learning Interview Schedule, an interview schedule developed by the author. Responses were transcribed and coded. Data analysis revealed that while the Euro-Canadian parents, and to a lesser extent the Indo-Canadian parents, tended to support an emergent literacy perspective, the Chinese-Canadian parents held much more traditional perceptions. Furthermore, while all of the parents supported some aspects of emergent literacy, parents in all three groups had difficulty with other aspects of this view of literacy acquisition. Finally, despite the commonalities across groups, there also were culturally specific perceptions of literacy learning.

Over the last several decades, research has shown that many children develop important literacy skills prior to formal instruction in school (Sulzby & Teale, 1991). Many theorists and educators have reconceptualized literacy acquisition away from a reading readiness sub-skills model toward one which is holistic, meaning centered, and developmental and is usually referred to as *emergent literacy* (Clay, 1966). Within this view, the child is seen as "constructor of his or her own literacy" (Sulzby and Teale, 1991) with the parents or significant others serving a facilitative role by engaging the child in functional literacy activities such as "writing" grocery lists, reading environmental print and storybook reading.

Rasinski, Bruneau, and Ambrose (1990) point out that this view of literacy learning is having considerable impact on the way in which literacy is now taught in many classrooms. As they suggest, ". . . much of whole language is based upon implementing in classroom settings what parents do with their children in nurturing language and literacy" (p. 11). Some educational jurisdictions such as the Province of British Columbia, Canada have implemented early literacy programs that have an emergent literacy orientation.

However, much of the research in emergent literacy has been "case studies, chronologies, and descriptions" (Adams, 1990, p. 336) conducted by "parent-academics" (Heath & Thomas, 1984, p. 51) with their own children. As Pellegrini (1991) has pointed out, while this research accurately describes the literacy experiences of many middle-class children, it does not necessarily reflect the literacy experiences in "non-mainstream culture homes" (p. 382). Furthermore, there is growing awareness that literacy acquisition is a socio-cultural phenomenon and that the meanings ascribed to literacy, the manner in which literacy is mediated, and the literacy activities in which members of a particular cultural group engage are determined by the values and beliefs held by the members of that group (Clay, 1993). For example, from a western perspective, shared story book reading may appear to be *the way* in which literacy is learned and indeed this notion is implicit in the research in emergent literacy alluded to earlier. But as Mason (1992) points out, in some cultures storybook reading to young children is virtually nonexistent, yet children still become literate. With the increasing diversity of the North American population, jurisdictions (e.g. Province of British Columbia, Canada) implementing early literacy programs with an emergent literacy focus may need to assess the congruency between literacy experiences at home and at school.

Some educators (e.g Fitzgerald, 1993) argue that children's literacy learning is jeopardized when there is conflict between literacy learning at school and literacy learning at home. For example, in her longitudinal study Heath (1983) documented qualitative differences between the early literacy experiences of working class children and their middle class counterparts. Tracing the children's development in school, she found that the middle class children whose early literacy experiences at home approximated the experiences which they subsequently encountered in school were successful in their literacy development and successful in school. On the other hand, the working class children whose preschool literacy experiences were not congruent with those at school experienced difficulty and failure and consequently dropped out of school. However, Taylor and Dorsey-Gaines (1988) found that inner-city children in their study were successful in learning to read and to write despite the lack of harmony between literacy learning at home and at school and despite the impoverished environments in which they lived. At this point, whether parents of school age children from different cultures support an emergent literacy perspective is unknown.

Related Literature

According to DeJesus (1985), in the past educators have tended to ignore parents except for involving them in menial and trivial ways. However, because of the realization that parents *do* play an important role in their children's early literacy development, researchers are beginning to investigate how parents fulfil this role especially after children commence school. This research has tended to have two foci, the literacy experiences which parents provide for their children at home and parents' perceptions of literacy learning.

For example, Rasinski, Bruneau, and Ambrose (1990) studied the literacy practices engaged in at home by children in a whole language kindergarten class. They found that the parents engaged their children in holistic activities which resembled those practices associated with whole language instruction. As they pointed out, "... literacy *in* these homes is not explicitly or systematically taught" (p.11).

Bruneau, Rasinski, and Ambrose (1989) investigated the perceptions of literacy learning held by middle class and upper middle parents' whose children were in a kindergarten program which was in transition from a skills based to a whole language program. They concluded that while some of the parents preferred a skills based approach and indeed had considerable difficulty with aspects of the new program such as invented spelling, the majority of the parents were very supportive of the whole language program.

In their study of the relationships between parents' literacy level and their perceptions of emergent literacy, Fitzgerald, Spiegel & Cunningham (1991) concluded that parents with lower literacy levels held more traditional perceptions of literacy while parents with higher literacy levels held perceptions consistent with an emergent literacy view.

Anderson (1994) investigated the perceptions of emergent literacy held by highly literate middle class and upper middle class parents and unlike Fitzgerald, Spiegel and Cunningham (1991), did not find unqualified support for an emergent literacy perspective among this group. While some parents supported an emergent literacy perspective, others held much more traditional views. Many parents supported some aspects of emergent literacy (e.g. reading like behaviour) more than others (e.g. invented spelling).

Since parents continue to play an important role in their children's literacy development after school entry (Snow et al., 1991), it is timely that researchers are beginning to study the beliefs which parents hold about literacy and how these beliefs influence the home literacy environment which parents create for their children. However, much of this research has involved parents from the "mainstream" culture (Pellegrini, 1991). Given the increasing diversity within society and the recognition of the socio-cultural nature of literacy learning, research is needed with parents from various socio-cultural groups.

Purpose

The purpose of this exploratory study was to investigate the perceptions of emergent literacy learning which parents from different cultural groups hold. The three groups chosen for the study represent three of the largest cultural groups in the Province of British Columbia where the study was undertaken. The study addresses the following questions:

(1) Do parents from different cultural groups hold perceptions of literacy learning consistent with an emergent literacy perspective?

(2) Are there commonalities across the cultural groups in terms of parents' perceptions of emergent literacy?

Method

The sample for this study consisted of 10 parents from each of three different cultural groups: Chinese-Canadian, Euro-Canadian, and Indo-Canadian from an urban area of British Columbia. The sample was drawn from three elementary schools (Kindergarten-grade 7) hereafter referred to as schools A, B and C.

Most of the approximately 200 students who attend School A come from the working class neighbourhood in which it is located. Many of the parents are recent immigrants from India. Punjabi is spoken in many of the homes and English is the second language for many of the students. Many of the parents work in relatively low paying service occupations. The ten Indo-Canadian parents came from School A.

School B is located in a middle and upper middle class residential neighbourhood from whence most of the students come. Many of the parents are immigrants from Hong Kong and Taiwan, and for more than half of the approximately 400 students, English is their second language. The school also has a French Immersion stream and while many of the French Immersion students come from the immediate neighbourhood, a considerable number come from adjacent middle and upper middle class neighbourhoods. Many of the parents from this school are professionals or entrepreneurs. Six of the Euro-Canadian parents and four of the Chinese-Canadian parents had children attending this school.

School C, located in a residential-commercial area, has approximately

270 students who come from the surrounding neighbourhood. The school population is ethnically diverse and English is the second language for more than one third of the children. Many of the parents work in the commercial district and service industries and could be described as lower middle and middle class. However, some of the children come from a housing project located in the neighbourhood and their family incomes are low. Six of the Chinese-Canadian parents and four of the Euro-Canadian parents came from school C.

The three schools followed the recently developed *Primary Program* for the province of British Columbia which reflects an emergent literacy perspective. For example, teachers were encouraged to support children's emergent literacy behaviours such as a "reading-like behaviour" (Holdaway, 1979) and "invented spelling" (Routman, 1993). Each school provided some support for students for whom English is a second language and for special needs students, with some students occasionally receiving individual or small group instruction in the Learning Assistance Center. However, nearly all of the students were integrated into regular classrooms for most of the day with the E.S.L. or Learning Assistance teachers providing some support in the regular classrooms. The schools were relatively well equipped, each having a school library, classroom libraries, a gymnasium, and some computers with attendant software.

Three schools agreed to participate in the study and a random sample of 10 Chinese-Canadian, 10 Euro-Canadian, and 10 Indo-Canadian parents who had children attending kindergarten through grade two in these schools were selected. Attempts were made to balance the number of subjects according to grade level, but parent concerns and time constraints resulted in a slightly uneven sample of 11 parents of kindergarten children, 10 parents of grade one children, and 9 parents of grade two children.

Parents were interviewed either in their homes or in their children's school using the Parents' Perceptions of Literacy Learning Interview Schedule (PPLLIS) in her or his first language (Mandarin, English, or Punjabi) by trained research assistants representing the particular cultural group. The PPLLIS is a 33 item interview guide developed by Anderson (1992) as follows. First, a review of the literature was conducted and a number of features (e.g. Repeated reading of favourite texts plays an important role in learning to read) were extrapolated and were then converted into questions such as "Does a child benefit from hearing favourite stories that she has memorized read again?" Two university professors who are experts in early literacy reviewed the interview guide to establish content and face validity. Then, a class of 40 senior undergraduate education students, who had learned about emergent literacy in an in-depth manner in their reading/language arts methods courses completed the interview. Half of the students were instructed to answer as if they subscribed to an emergent literacy perspective while the other twenty were asked to respond as if they believed in a traditional readiness orientation. A reliability of 95% was established when actual responses were compared to anticipated responses.

The questions in the PPLLIS focus on reading (e.g. Does a child learn to read by first learning the letters of the alphabet and their sounds, then words, then sentences and then stories?), writing (e.g. Is it necessary for a child to have lots of experiences copying words, then sentences and then stories before she attempts to write on her own?) and literacy general (e.g. Is it important that children see their parents reading and writing?). Each interview was audiotaped and then transcribed in its entirety. The responses were then coded as to their congruence/non-congruence with an emergent literacy perspective and the data were analyzed. Personal information such as the child's date of birth, age(s) of sibling(s) and language(s) used at home also was collected.

Results

In this section, commonalities in perceptions of literacy learning across the three groups as measured by the PPLLIS are reported first. Then the results for each cultural group are reported and major differences across the groups are highlighted.

Commonalities Across Groups

There was unanimous support for an emergent literacy perspective on only one item (Question 8). But some aspects of emergent literacy received considerable support in all three groups. Eight or more parents (>80%) in each group agreed that tracking print was an appropriate strategy for parents to use when reading to children (Question 7), accepted the concept of reading like behaviour (Question 10), saw a connection between children's scribblings and later writing development (Question 16), concurred with the developmental nature of literacy acquisition (Question 22), and realized the significance of the social aspects of literacy learning (Questions 26-29).

However, other aspects of emergent literacy received little support across the groups (see Table 1). For example, in each group more than one half of the parents did not believe that children learn to read holistically (Question 1) and would not accept a child's invented spelling (Question 19). Similarly, parents tended to believe that children need to know the letters of the alphabet and their sounds before they can begin to write (Question 12), which of course is consistent with their perceptions of invented spelling. Parents in all groups tended to support reading readiness (Question 33), which is perhaps to be expected given the ubiquity of such materials in the marketplace.

Chinese Canadian Parents

The individual scores on the PPLLIS for this group ranged from 11/33 (33% congruency) to 24/33 (73% congruency) while overall, fifty-four per-

Table 1. Commonalities Across Parent Groups

Question	C-C	E-C	I-C
1. Does a child learn to read by first learning the letters of the alphabet and their sounds, then words, then sentences and then stories? (N)	2	4	2
7. Will you be teaching your child a bad habit if you point to the print as you read? (N)	8	9	10
8. Are you helping a child learn to read by encouraging her to discuss what is being read? (Y)	10	10	10
10. Should you permit your child to "read" familiar books from memory using the pictures as cues? (Y)	9	10	10
12. Is it necessary for a child to know the letters of the alphabet, and the sounds of the letters of the alphabet, before she begins to write? (N)	1	5	3
16. Are a child's early scribblings (show example) related to later development in writing stories, messages, etc.? (Y)	8	8	10
19. Should you correct your child if she writes "kt" for the word "cat"? (N)	0	2	0
22. Are learning to read and learning to write similar to learning to talk in that children learn these skills gradually? (Y)	10	8	9
Do these activities help children learn to read and to write?			
26. talking to them? (Y)	9	9	10
27. taking them on outings? (Y)	9	9	9
28. having them pretend to write grocery lists with you? (Y)	9	9	10
29. reading to them? (Y)	10	10	10
33. Do children need training in hand-eye coordination, recognizing shapes, and forth before they begin to learn to read and to write? (N)	5	5	3

C-C = Chinese Canadian; E-C = Euro- Canadian; I-C = Indo-Canadian (n=10 in each category)

(Y) and (N) indicate that parents would answer "Yes" or "No" respectively if their answers were congruent with an emergent literacy perspective.

cent of the responses were consistent with an emergent literacy view. Anderson (1994) found that a similar group of middle class and high literate Euro-Canadian parents generally supported an emergent literacy perspective. Although the high-literate parents in the Fitzgerald, Spiegel & Cunningham (1991) study overwhelmingly supported holistic literacy instruction, there was considerably less support for such a perspective among this group of Chinese-Canadian parents.

Table 2. Chinese-Canadian Parents' Answers

Question	#Y	#N	#UN
5. Does a child need workbooks and basal readers to learn how to read? (N)	10		
9. Is it necessary to check a child's understanding by asking him questions at the end of each story? (N)	10		
11. Does real reading begin only when a child begins to say the words as they are printed on the page? (N)	8	1	1
13. Should a child learn to print neatly the letters of the alphabet before attempting to print messages, notes, stories and so forth? (N)	5	5	
14. Is it necessary for a child to have lots of experience copying words, then sentences, and finally stories before she attempts to write on her own? (N)	8	2	
19. Should you correct your child if she writes "kt" for the word "cat"? (N)	10		
24. Does reading to, and with, children help them learn to write? (Y)	10		

Note: n=10

#Y, #N, and #UN indicate number of parents in this group answering "Yes," "No" or "Unsure" respectively.

(Y) and (N) indicate that parents would answer "Yes" or "No" respectively if their answers were congruent with an emergent literacy perspective.

However, the Chinese-Canadian parents unanimously supported some aspects of emergent literacy (see Table 2). All of the parents agreed that reading to and with children helps them learn to write (Question 24), such reciprocity, of course, being an underlying principle of a holistic or emergent literacy perspective.

Interestingly, the Chinese-Canadian parents were nearly equally divided on some items. Half the parents, for example, believed that children need to print neatly before attempting to compose (Question 13). This position was articulated in an unequivocal manner by one parent who said, "Yes, he should."

On the other hand, five parents did not regard neat printing as a prerequisite to written communication. One parent, perhaps intuitively recognizing the role of drawing in young children's writing, articulated this position, "No, not necessary. The child can draw a picture instead of printing the letters neatly."

These parents unanimously rejected some aspects of emergent literacy. For example, all ten parents saw workbooks and basal readers as necessary in learning to read (Question 3) responding "Certainly!" and "Yes, I often bought them for her." They all supported the practice of asking questions at the end of each story (Question 9), a practice decried by some educators (Durkin, 1978). This group unanimously rejected invented spelling (Question 19) and they often did so stridently, "Yes, we should because it's incorrect!"

Previous studies (e.g. Anderson, 1994; Bruneau, Rasinski & Ambrose, 1989) have found that some parents have difficulty accepting invented spelling but that many parents accept and support it. Here, there was unequivocal rejection.

Some aspects of emergent literacy were rejected by all but one of the Chinese-Canadian parents (e.g. Question 11). In a manner reminiscent of Gough's (1976) admonition that "the good reader need not guess; the bad should not" (p. 532), several parents indicated that unless the child could accurately decode every word she was "just guessing" and "he is not really reading." Perhaps informed by observing her own child's "reading-like behaviour" (Holdaway, 1979), the parent who supported an emergent perspective here elaborated, "Not always. Usually he read the words on the page. Sometimes he could also develop his own ideas when he looked at the pictures and read."

Similarly, only two parents believed that children do not need to copy words and texts before they begin to write on their own (Question 14). This appears consistent with the unanimous rejection of invented spelling in that parents saw copying texts as a means of learning correct spelling.

Euro-Canadian Parents

Approximately 84% of the responses here were congruent with an emergent literacy perspective while individual responses ranged from 15/33 (45.5% congruency) to 32/33 (96.7% congruency). These findings are similar to those of Anderson's (1994) study of the perceptions of literacy acquisition held by middle/upper-middle class parents of preschoolers.

All of the Euro-Canadian parents supported some aspects of emergent literacy (see Table 3). For example, all of the parents supported repeated

Table 3. Euro-Canadian Parents' Answers

Question	=Y	=N	=UN
1. Does a child learn to read by first learning the letters of the alphabet and their sounds, then words, then sentences and then stories? (N)	6	4	
5. Does a child benefit from hearing favourite stories that she has memorized read again and again? (Y)	10		
19. Should you correct your child if she writes "kt" for the word "cat?" (N)	8	2	
33. Do children need training in hand-eye coordination, recognizing shapes, and so forth before they begin to learn to read and to write? (N)	5	5	

Note: n=10

=Y, =N and =UN indicate number of parents in this group answering "Yes," "No" or "UNsure" respectively.

(Y) and (N) indicate that parents would answer "Yes" or "No" respectively if their answers were congruent with an emergent literacy perspective.

reading of favourite books (Question 5), which Holdaway (1979) and others see as a key element in emergent reading. As one parent remarked with considerable insight, "Yes. They hear the story and the more she hears, the expression becomes stronger."

No aspect of emergent literacy was unanimously rejected by this group although they tended to have more traditional perceptions of some aspects of literacy learning. For instance, six parents supported a hierarchical model of learning to read (Question 1). However, some parents had more holistic views of learning to read as exemplified in the following the response,"I don't think so personally. I think it's more important for him to know the context of the sentence or the story. Yes, because children can skip over words and get meaning and sometimes go back afterwards."

Eight parents indicated that they would correct a child's invented spelling (Question 19). Interestingly, all three of the parents of kindergarten children would correct invented spelling while two of the four parents of grade two children would not, perhaps suggesting that parents become more accepting of invented spelling as they see their children's writing develop. Different degrees of sensitivity to children's invented spelling were evident as the following examples demonstrate. One parent categorically stated, "Yes, I would as well as telling him that it is not good" while another parent indicated "I would definitely correct the spelling . . ." but ". . . I would do it in a non-critical way." Several parents responded quite pragmatically as did the parent who indicated that she corrected her child's invented spelling "when my child looks up to me and asks me if it is correct." Anderson (1994) similarly found that many parents are uncomfortable with the concept of invented spelling.

There also was considerable support for reading readiness (Question 33) within this group. And while some parents rejected reading readiness outright, several parents suggested that readiness activities are not necessary but are not harmful and thus are "okay." Again, these findings are consistent with those of Anderson (1994).

Indo-Canadian Parents

The responses of individuals in this group ranged from 16/33 (48.5% congruent) to 25/33 (75.8% congruent) while overall, approximately 63% of the responses were congruent with an emergent literacy perspective .

As with the other groups, the Indo-Canadian parents unanimously supported some aspects of emergent literacy, held more traditional views on some, and were divided on others (see Table 4). All ten parents, for example, valued the role of discussion in shared reading (Question 8). One parent observed, "I would encourage child to discuss what is being read. [Discussion] increases vocabulary and child's knowledge."

Table 4. Indo-Canadian Parents' Answers

Question	=Y	=N	=UN
3. Does a child need workbooks and basal readers to learn how to read? (N)	10		
8. Are you helping a child learn to read by encouraging her to discuss what is being read? (Y)	10		
9. Is it necessary to check a child's understanding by asking him questions at the end of each story? (N)	9	1	
15. Should a child be encouraged to write only easy words and short sentences when he begins to write? (N)	10		
19. Should you correct your child if she writes "kt" for the word "cat"? (N)	10		

Note: n=10

=Y, =N and =UN indicate number of parents in this group answering "Yes," "No" or "UNsure" respectively.

(Y) and (N) indicate that parents would answer "Yes" or "No" respectively if their answers were congruent with an emergent literacy perspective.

In contrast, all of these parents held traditional perspectives with regards to the role of basal readers and workbooks (Question 3), linearity in writing development (Question 15), and invented spelling (Question 19). Interestingly, all of the Chinese-Canadian parents also held traditional perceptions about these aspects of literacy learning. Invented spelling (Question 19) was just as vigorously rejected by this group as it was by the Chinese-Canadian parents. For example, one parent in explaining why she would correct her child's spelling of the word "cat" as "kt", emphatically argued that "c-a-t is right and kt is wrong."

Nine of the parents here agreed with the use of flash cards (Question 3) in teaching children to read. Some of the parents from the other groups in this study also supported this technique, as did the parents in the Anderson study (1994), but to a much more limited extent.

Other Considerations

To investigate whether there was a relationship between a child's grade in school and the parent's perceptions of literacy learning, the parents were grouped according to the grade of the child. Mean scores on the PPLLIS were computed as follows: kindergarten 21.5, grade one 23, grade two 21.8. T tests revealed no significant differences among the three groups. To see if there was a relationship between parents' previous experiences with school' literacy programs and their perceptions of literacy acquisition, parents were grouped according to whether or not there was an older sibling (or siblings). Again mean scores on the PPLLIS were computed with the following results: older sibling (n-17) 22.5; no older sibling (n=13) 22. T tests indicated no significant differences.

Differences Among Parent Groups

As stated earlier, there were some commonalities across the groups; however, there were also differences (see Table 5). For example, when compared to the other groups, Chinese-Canadian parents placed less value on repeated reading of favourite books (Question 6), emphasized neatness in printing (Question 13), saw copying texts as a means to learn to write (Question 14), and believed that only gifted children learn to read and write prior to formal instruction (Question 23). Comparatively, the Euro-Canadian parents tended to express less support for basal readers and workbooks (Question 3), lend less support to asking comprehension questions after a child has read (Question 9), support a developmental view of learning to read (Question 11), and disagree that literacy learning can begin only at a particular age (Question 32). In contrast, the Indo-Canadian parents, supported the use of flashcards (Question 3) while the other groups showed much less support for this technique.

Table 5. Differences Among Parent Groups

Question	C-C	E-C	I-C
3. Does a child need workbooks and basal readers to learn how to read? (N)	0	6	0
6. Should you encourage a child to join in sometimes while you read a book with which he is familiar? (Y)	5	10	8
9. Is it necessary to check a child's understanding by asking him questions at the end of each story? (N)	0	7	1
11. Does real reading begin only when a child begins to say the words as they are printed on the page? (N)	1	9	4
13. Should a child learn to print neatly the letters of the alphabet before attempting to print messages, notes, stories and so forth? (N)	5	8	8
14. Is it necessary for a child to have lots of experience copying words, then sentences, and finally stories before she attempts to write on her own? (N)	2	8	7
25. Is it only gifted children who learn to read and write before receiving formal instruction in preschool or elementary school? (N)	3	9	10

C-C = Chinese Canadian ; E-C = Euro Canadian, I-C = Indo-Canadian (n=10 in each category)

(Y) and (N) indicate that parents would answer "Yes" or "No" respectively if their answers were congruent with an emergent literacy perspective.

Conclusion

The purpose of this study was to investigate the perceptions of emergent literacy held by parents from different cultural groups. The generalizations which can be made from this study are limited by a lack of randomization and the sample size. In the context of this study:

(1) Euro-Canadian parents were much more supportive of an emergent literacy perspective than other groups, although there was less support for particular aspects of emergent literacy.

(2) Indo-Canadian parents were less supportive of an emergent literacy perspective than Euro-Canadian parents and they unanimously rejected some aspects of emergent literacy.

(3) Chinese-Canadian parents were the least supportive of an emergent literacy perspective and rejected several aspects of an emergent literacy perspective unanimously.

The finding that the Euro-Canadian parents were generally supportive of an emergent literacy perspective is generally consistent with research by Anderson (1994) and Fitzgerald, Spiegel and Cunningham (1991). As in the Anderson (1994) study with parents of preschoolers, the Euro-Canadian parents disagree with some aspects of emergent literacy. This finding is inconsistent with that of Fitzgerald, Spiegel and Cunningham who concluded that high literate middle class parents (as these Euro-Canadian parents were) unequivocally supported emergent literacy. This difference might be attributable to the fact that the Anderson study was conducted in Canada while the Fitzgerald, Spiegel and Cunningham occurred in the southern United States. The difference might also be attributable to differences in the data collection procedures in the two studies.

Adams (1990) and Heath and Thomas (1984) have criticized the theory of emergent literacy because it has been constructed from a limited and narrow research base involving middle-class Caucasian parents. Thus it was expected that Chinese-Canadian and Indo-Canadian parents might show less support for the emergent-literacy perspective than the Euro-Canadian parents. However, one cannot help but question the appropriateness of developing literacy programs based on the home literacy practices of a particular cultural group, when such programs are designed to build on the literacy practices which children bring to school with them.

Some aspects of emergent literacy were supported by parents from the three cultural groups. And while further research with larger samples and with parents from other cultural groups is needed to establish the extent of such commonality, this finding suggests that certain literacy practices are valued across cultures and indeed teachers might want to be cognizant of such practices.

Parents from the "non-mainstream" groups unanimously, and in some cases quite stridently, rejected some aspects of emergent literacy. For example, the Chinese-Canadian parents and, to a lesser extent, the Indo-Canadian parents, rejected the concept of reading-like behaviour even though research suggests this stage is an important one in children's literacy development (Sulzby, 1985).

Likewise, within these two cultural groups, there was strong support for literacy practices which many would consider antithetical to emergent literacy, such as the Indo-Canadian parents support of drill and practice using flashcards.

Recently, educators such as Dyson (1993) and Delpit (1992) have challenged the appropriateness of "generic" (Dyson,1993, p. 410) models of literacy acquisition, arguing that assumptions such as inventiveness and risk-taking which undergird whole language and emergent literacy are inappropriate for children from some socio-cultural groups where such strategies are not practiced or valued. Delpit and Dyson contend that proponents of whole language and emergent literacy promote the notion that instructional programs based on the principles of emergent literacy and whole language benefit all children and they argue that such is not the case. Anderson (1992) found that parents' perceptions of literacy learning have a direct relationship with the home environment they create for their children. That is, parents actually do what they say they do in terms of helping their children become literate. If this holds for the parents in this study, the experiences which the Euro-Canadian parents provide match nicely the experiences provided in an emergent literacy educational program. This would not be true for the children from the other cultural groups. Whether such incongruity between literacy learning at home and literacy learning at school negatively affects children's literacy development is still a matter of some debate (Fitzgerald,1993; Taylor & Dorsey-Gaines,1988).

According to Harste, Woodward and Burke (1984) "language teaching and language learning are rooted in belief" (p. ix). If this premise holds for literacy learning out of school as it appears to for literacy learning in school, it is imperative that we continue to find out what parents believe about literacy learning and how these beliefs relate to children's literacy learning. Fitzgerald, Spiegel and Cunningham (1991) speculated that there would not be differences in parents' perceptions among cultural groups, but indicated a need for research in this area. The results of the present study indicate that the perceptions of literacy learning held by these parents were indeed in some ways culturally specific. Therefore, further research with a larger sample representing the cultural groups involved in this study and other cultural groups is needed. For example, while three of the largest cultural groups from the area in which the study took place were included in this study, children from several dozen other cultural groups attend schools under the jurisdiction of the school board in question and little is known about how parents from these groups perceive emergent literacy. Further research also is needed to determine whether tensions between literacy learning at home and literacy learning at school negatively affect children's literacy acquisition. Perhaps most importantly, it appears we need to heed the advice of Dyson (1993) and begin to dialogue about differences.

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PARENTS' PERCEPTIONS OF YOUNG CHILDREN'S AWARENESS OF ENVIRONMENTAL PRINT

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Abstract

This paper describes a study conducted with young children in an effort to determine their success in identifying commercial logos presented in a flashed format and the parent's perceptions of their children's ability to successfully complete this task. Two questions were examined. First, do academically at-risk preschool children respond to environmental print in the same manner as do academically advantaged preschoolers? Second, can parents of at risk preschoolers predict their children's recognition of environmental print as successfully as the parents of academically advantaged preschoolers? Results revealed a significant difference existed between the responses of academically at-risk preschool children and academically advantaged preschool children: $t = -6.2$, $p < .0001$. *It also was revealed that a significant difference existed between ability of parents of the two groups of preschoolers investigated by this study to predict the success of their children's ability to successfully complete this task:* $t = -4.9$, $p < .0001$.

Young children prior to the onset of formal education at school age, approximately ages four to six, are exposed to a constant bombardment of environmental print. Children observe and recognize these logos and trade names on toys, clothes, and stores (Mason, 1980). Preschoolers often recognize these logos (the golden arches of McDonald's, the store sign at the Kroger, the label on a can of Coke, etc.), and are aware of the print associated with them (Hiebert, 1978 and McGee, 1986).

Teachers in kindergarten and first grade are strongly encouraged (Salinger, 1993; Strickland, 1990) to use logos and environmental print as tools for early literacy activities in their classrooms. Parents are urged (Briggs & Richardson, 1993) to use trade names and logos to encourage children in early

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attempts to read and write at home. Wepner (1985), in an experimental training study, used a "personalized logo book" to expose middle class 3- and 4-year-olds to "reading." All children seemed to profit from the training by improving their word reading and reading attitude scores during the study. Wepner (1985) concluded that more research is needed in "urban and suburban" (p. 638) areas to expand her conclusions as to instructional desirability of environmental print beyond her middle class sample. She conjectured, but could not empirically establish, that environmental print could be used for all groups as a natural and spontaneous way to begin the literacy process.

It has been observed that school readiness for reading tasks and the development of emerging literacy skills may be different among contrasting social cultural groups. Academically and economically at-risk groups may be less skilled in recognizing logos and examples of environmental print than are their more economically and academically advantaged peers. Ehri (1981) has suggested that social class and cultural differences which impact language also impact linguistic awareness. She posited that parent-child communication patterns, which vary with social class, were directly related to reading progress. Bereiter and Englemann (1966) in their pedagogical book on teaching the at-risk child in the preschool suggested that a low level of parent-child communication would hinder early reading and academic progress. Hiebert (1981) has written that the reaction to logographic print is not the same for all children of a common age bracket. She found that ". . . the cultural milieu may be a crucial determinant in producing differences among members of the same age cohort" (p. 255). Hiebert (1981) further concluded that this culturally different response to environmental print supported Lavine's (1973) findings that print awareness varied widely between children in different cultural groups. Taylor, Blum, and Logsdon (1986) concluded from a broad study of written language awareness that in instruction all children needed the function of print to be made explicit, but this need ". . . may be particularly acute among children from certain socioeconomic backgrounds" (p. 147). Thus, the effects of diverse home experiences on preschoolers' print awareness requires further investigation (Hiebert, 1981).

Problem and Questions

Because of access to transportation and the universal nature of mass media, TV and its advertising, it is possible that children of different economic groups are exposed to trade names and logos equally in the community environment (Anderson & Stokes, 1984). If this exposure is essentially the same, then children of different groups should respond in a similar fashion to examples of environmental print. If groups of children respond differently to logos, then, perhaps it is the interaction among parent and child, as suggested by Bereiter and Englemann (1966), in association with these print experiences that produce the differences in recognition.

This study attempted to measure children's success with identifying examples of environmental print and to determine parents' awareness of children's success with logo recognition. Specifically, the study investigated the two following general questions:

1. Do academically at-risk preschool children respond to environmental print in the same manner as do academically advantaged preschoolers?
2. Can parents predict their children's successful or unsuccessful recognition of environmental print?

Procedures

Two groups of parents and their associated groups of prekindergarten children, advantaged and at-risk, were studied (total $N = 80$). Both of the subgroups contained 40 subjects (20 mothers and 20 children). The responses of parents and their at-risk children in preschool were compared with the responses of parents and their academically advantaged preschool children.

At-risk children were defined in the study following the criteria suggested by Morris (1991) in a planning guide for programs to assist children and families at-risk. His broad list of risk factors included the following: be at or below 150% of the poverty index, be in a single parent household, have parent(s) who have not finished high school, be a recipient of a state or federal transfer program, or have a parent monitored by the court.

At-risk subjects were randomly drawn (stratified for sex) from a larger pool of subjects in a jointly funded federal and state preschool intervention program for at-risk youth. The program, which requires parent cooperation for pupil attendance, selects participants based upon a number of combined at-risk factors including economics and family status. The average age of the 20 at-risk preschoolers was 4-years-5-months. The parents of the at-risk children reflected one or more of the qualifying factors. All were head-of-household in a single mother environment. Only three had completed high school. Four were currently in an alternative high school experience. All received monetary assistance from several governmental sources.

The advantaged preschoolers were identified and labeled for the study if they did not display any of the qualifying social, academic, economic, or judicial factors used to identify the at-risk sample.

The advantaged preschoolers were drawn in a stratified random selection (sex) from a larger group attending a private church-sponsored preschool day care program typically attracting upper middle class patrons. The average age of the advantaged children was 4-years-5.5-months. All of the mothers in this group had completed high school. Eight had graduated from college. Eight had some college attendance. All mothers in this group were in a current two-parent household arrangement.

Both groups of prekindergarten children were asked to identify, by reading or naming, eight common logographic samples presented on cards in an individual testing session as part of their school day. While no time limit was set for response production, children typically responded quickly or quickly indicated a refusal to respond. The following logos or trademarks were on the cards: Pepsi, Campbell's, Cheerios, McDonald's, Kroger, Tide, Jello, and Coca-Cola. Cards were constructed by laminating actual examples of the trademarks to 4" X 6" index cards. All logos filled a majority of the card's surface. The eight cards selected for the study were the 8 most commonly recognized out of 23 in a pilot study. All examples of logographic print occurred in the community or home environment.

Testing was conducted by graduate students trained in an established protocol and familiar with the groups of children and parents being tested. Recorded responses were evaluated and scored by the senior researchers. In scoring children's knowledge of environmental print, Hiebert's (1981) study that presented a hierarchy for scoring that rewarded children for correct answers, conceptually appropriate answers, and literate responses such as letter names was adopted by the authors. This use of multiple scoring in evaluating logographic responses is supported by Goodman and Goodman (1979) who hypothesized that response to environmental print was holistic where children have both general and specific responses to written language. Goodman and Burke (1972) laid the framework for Hiebert (1981) to develop a complex scoring protocol for environmental print responses. Thus, each child's response was judged by the following modified grading criteria (Hiebert, 1981):

giving a correct response (4 points),
giving a related concept word (3 points),
giving a spelling response (1 point),
or giving an incorrect response (0 points).

Two scores were thus computed for each preschool child: (a) the number of words correctly identified, and (b) a composite awareness score totaling all points awarded from the recorded responses.

Parents from both comparison groups were presented the same logographic cards as presented to the children and asked to predict what their preschool child's performance was to each trade mark. Mothers were asked to indicate if their child "did know" (5 points), "might know" (3 points), or "did not know" (0 points) each sample of environmental print. If a mother indicated that the child would know all the words, the score would be 40. If the mother indicated that the child would not know any words, the score would be 0. This range of scores (40 to 0) was used to indicate a mother's perceived awareness of her child's success with the print situation. The higher the score, the more stimuli the mother thought that the child would know.

Secondly, an agreement score reflecting how accurately each parent predicted her child's success with the logographic stimuli was computed using the following protocol created for this study.

Parent's Prediction	Child's Response	Score
did know	correct	3
did know	concept	2
did know	incorrect	0
might know	correct	2
might know	concept	3
might know	incorrect	0
did not know	incorrect	3
did not know	concept	0
did not know	correct	0

The higher the score, the closer the congruence between what the parent thought the child would know and how the child actually performed on the logographic reading task. A low score indicates that there was disagreement between what the parent perceived would be success and the actual performance of the child. Perfect prediction would be reflected by a score of 24 while a total lack of accurate prediction would be a score of 0.

Results

The first research question, (1) Do academically at-risk preschool children respond to environmental print in the same manner as do academically advantaged preschoolers, was tested in two ways: absolute number correct, and composite awareness responses.

The number of correctly read logographic presentations (eight was the total possible) was compared (Table 1) for each group of prekindergartners: at-risk and advantaged.

Table 1. Advantaged vs. At-risk Children: Number of Words Read Correctly

Groups	Number	Mean	*SD*	*t*	*p*
At-risk	20	2.2	.8	6.2	.0001
Advantaged	20	4.8	1.7		

Advantaged preschoolers provided significantly more correct responses to the logographic examples of environmental print than did the at-risk children.

The composite scores that rewarded the children for nearly correct answers or appropriate literacy predictions also were compared. Table 2 presents the mean difference analysis for the two groups of children using a two-group *t*-test analysis for uncorrelated means. Advantaged preschool children gave significantly more meaningful responses to the logographic stimuli than did the at-risk preschool children.

Table 2. Advantaged vs. At-risk Children: Composite Score

Groups	Number	Mean	*SD*	*t*	*p*
At-risk	20	17.6	3.7	4.1	.0002
Advantaged	20	23.4	5.1		

The second research question, (2) Can parents predict their children's successful or unsuccessful recognition of environmental print, was tested two ways. First, parent's awareness of their child's logographic reading success was addressed by asking mothers to predict which logographic trade names they thought their child would identify correctly. Scores on the awareness scale were compared by a *t*-test analysis (Table 3).

Table 3. Parents' Prediction of Children's Responses: Advantaged vs. At-risk

Groups	Number	Mean	*SD*	*t*	*p*
At-risk	20	30.5	5.4	2.2	.03
Advantaged	20	25.6	7.9		

Parents in the two groups were quite different in their estimations of children's logographic reading success. Parents in the at-risk group predicted that their children would read logographic print samples at a significantly higher level than did the parents of the advantaged children.

Parents' agreement of how well they estimated successful logographic reading by their children was also evaluated by *t*-test analysis (Table 4). Mothers of children in the advantaged preschool group were significantly more accurate in predicting their children's success with logos than were the mothers of children in the at-risk group.

Table 4. Parents' Agreement with Children: Advantaged vs. At-risk

Groups	Number	Mean	*SD*	*t*	*p*
At-risk	20	14.7	3.0	-4.9	.0001
Advantaged	20	19.3	2.9		

Discussion

Children appear to be familiar with environmental print as it appears in their homes and communities in the form of logos, trade names, and signs. This general awareness of environmental print appears to cut across, to some extent, socioeconomic and academic lines and supports Wepner's (1985) recommendation to use environmental print as an early literacy activity. The present study found that 4-year-old children, both advantaged and at-risk, were able to correctly name at least some of the selected examples of environmental print. No child was unfamiliar with the concept that the presented stimuli named, or represented, something from the environment that could be labeled. While all children did not respond to all items, no child refused to give language labels to at least some of the presented cards. All children were able to "read" at least one logographic presentation correctly, while a few children "read" all logos correctly.

An assumption of the study posited that the logo and trade names used would be commonly available to all children regardless of group. Although the results of the study are limited to two small samples and eight examples of environmental print, it appears that this assumption of common distribution was essentially correct and corroborates McGee's (1986) instructional position. Parents in both groups thought that their child would know most of the logos, thus indicating that these symbols appeared in the child's visual world. In no case did a parent of either group indicate that the logo would be outside of the possible awareness of the child. Thus, visual availability of the sampled logos did not appear to be different for the at-risk and advantaged groups.

Four-year-olds from the advantaged group, however, were about twice as successful in reading the logos as were young children from the at-risk group. This superiority in logographic reading awareness by advantaged children over at-risk children was also apparent in the composite scoring of the reading task. As reported by Hiebert (1981) and Lavine (1973), advantaged children recorded conceptual composite scores about twice as high as did the at-risk children. Even though differences in success existed, the scores of both groups were such that it appeared that logos, labels, signs, or trade names may be useful as teaching tools and can be used by parents and teachers in literacy development activities. Logo recognition is a strength that could be used as an entrance into more sophisticated or complicated literacy activities as suggested by Goodall (1984). Logographic recognition appears to be a widely distributed recognition task that prompts meaningful language responses from most 4-year-old children regardless of predicted academic status.

The two questions concerning predicted success and congruence between the parents' prediction and successful logographic reading by the children must be addressed as one. All of the mothers appeared confident that their children could read examples of environmental print as reflected in the eight trade marks. Parents in both groups generally predicted that their child would show success on the logo reading task and thought that their children would be able to read at least some of the logographic examples successfully. No mother expressed the idea that her child would fail to be successful on the environmental print reading recognition task.

Mothers in the at-risk group recorded higher success predictions than did the mothers in the advantaged groups. In reality, though, at-risk children were markedly less successful in the recognition task than were the children in the advantaged group. There was little congruence between at-risk mothers' predictions and the children's logographic reading success. The mothers of at-risk children over-estimated children's success. Was this over-estimation a signal that these mothers are not in tune with their children's language and emerging literacy skills, as suggested by Bereiter and Englemann (1966) and Ehri (1981)? Or, was the over-estimation a signal that the mothers were wanting to tell the examiner what it was perceived that the examiner expected to hear?

Mothers of advantaged children were more accurate in their predictions than were the mothers of the at-risk children. Mothers of advantaged children made predictions of success that were in congruence with their children's actual logographic reading attempts. It appears that the mothers of these advantaged children were aware of their children's knowledge of environmental print and may already have been using logo and sign naming activities as communication and learning avenues with their children.

Although all parents should be encouraged to use logos, trade names, and signs as literacy events, mothers of at-risk children may require additional encouragement or education in using the labels as teaching learning tools. Existing parenting classes that work to serve high-risk families could add this instructional service to offered programs and activities. Within this education process, mothers could be assisted in becoming more aware of the success rate of their children's reading attempts. Education focusing on developing parent child language interaction using the signs and logos that are encountered in the community as convenient early teaching and learning tools appears to be desirable.

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HOME LITERACY ENVIRONMENT AND YOUNG CHILDREN'S LITERACY KNOWLEDGE AND BEHAVIOR

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Abstract

In a five-year longitudinal study, the home literacy environments of sixty preschool children were assessed. Over the preschool and early school experiences of these children, they were administered various measures of metaliterate awareness and later, standardized reading measures, to determine the nature of the home environment's influence on emerging literacy knowledge and reading ability. Modest support for a positive influence of the home literacy environment was found, as well as interactions of this factor with age.

In the 1960's, educators and parents witnessed a new concern for literacy skills, as measured by standardized test results, and a focus on the early years as exemplified in the U.S. project called Head Start. These developments led researchers to examine the preschool years to determine which non-instructional factors were important for the acquisition of literacy skills.

During the ensuing decade, the focus of this research was to determine the best environment in which children would learn to read and write. Longitudinal studies found preschool age links between oral language and emerging reading and writing behaviors (Chomsky, 1972; Bissex, 1980). In the 1980's the view that children's experiences prior to school entry played a significant part in their successful acquisition and development of literacy moved from theory-driven belief to theory-driven research.

Numerous researchers during these two decades based their work on the premise, and then research findings, that children's knowledge of literacy and their literate behaviors begin to emerge in the preschool years (Clay, 1979; Doake, 1981; Ferreiro and Teberosky, 1982; Harste et al., 1984; Heibert, 1981; Lomax and McGhee, 1987; Teale and Sulzby, 1986). Teale (1986 a & b) found that this developing knowledge and these abilities were not the result of direct instruction. Rather, the learning of and about literacy was usually constructed within the context of interactions in the home between children and parents and/or older siblings.

Research results indicated that literacy development during the preschool years was related to preschool language and literacy experiences. A series of reports from the University of British Columbia revealed several patterns. First, children coming from homes with a predisposition toward literacy were found to have better understandings of story schema (Doiron and Shapiro, 1988). Also, patterns of discourse during book reading episodes were related to the later emergence of print-related literacy skills (Watson and Shapiro, 1988). Finally, children entering their school-age years from homes with a predisposition toward literacy appeared to have good oral language skills and show signs of a sensitivity to use of decontextualized language (Reeder, Wakefield and Shapiro, 1988). This sensitivity emerged earlier in these children than in children from homes with less of a predisposition toward literacy (Reeder and Shapiro, 1993). This latter finding was consistent with other researchers who observed that children expect language and language experiences to be meaningful and are used to observing adults model literacy skills, especially through book reading (Teale, 1984) and the sharing of stories (Wells, 1985). These children had developed a "sense of story" from their exposure to the narratives of children's literature and were themselves experienced users of narrative (Applebee, 1980). Later literacy skill acquisition in school also was found related to forms of language with which the child was already familiar from experiences in the home (Heath, 1983; Snow, 1983). It was believed that children's experiences using story in decontextualized ways developed skills necessary for reading and writing (Wells, 1985).

It is reasonable then to expect that relationships will exist between home literacy environment and/or preschool literacy knowledge and abilities and later reading achievement. This paper will not review the literature on emergent literacy, for thorough reviews can be found elsewhere (Mason and Allen, 1986; Shapiro, 1990). Suffice it to say that while many facets of young children's emergence into literacy have been examined, what we have learned about the relationship between family and home environment and aspects of literacy acquisition remains limited. By far the preponderance of research has focused on children's emerging concepts about print and/or their later school reading achievement, albeit their concepts about print are thought to be related to the home literacy environment. The results from many of these studies often can not be generalized beyond their own samples for various reasons. Two recent studies will serve to illustrate this difficulty.

Stewart and Mason (1989) attempted to examine the effects of home environment on aspects of metalinguistic awareness. They studied prekindergarten and kindergarten age children and found that parent reports of their children's early literacy experiences and how they interacted with their children were related to the children's awareness of reading and writing. Aside from the difficulties inherent in retrospective interviews and the fact that their conclusion was reached from the analysis of only a few case studies, the generalizability of this study was further compromised in two ways. First, the researchers lost sixty per cent of the original sample with the majority coming from one particular classroom. Such a startling rate of subject mortality seriously threatens external validity. Second, the children had in fact received formal reading instruction, thus the relationship between early experiences and metalinguistic awareness was confounded. In earlier work on emergent literacy, Mason (1980), while discussing problems with the research in this area pointed out that ". . . if a child is given instruction at school, it is nearly impossible to disentangle the effects of this from what is learned at home . . ." (p. 207).

By far the most often cited work regarding home literacy environment is the series of studies by Wells and his colleagues in the Bristol Longitudinal Development Research Programme (Moon and Wells, 1979; Wells, 1985). These researchers discovered a strong relationship between early literacy knowledge, developed through parent/child book reading, and later school reading achievement (word identification and comprehension). The latter study actually indicated that it was an aural story schema building activity, listening to stories, rather than looking at books which had the most impact on preschool literacy understanding and later reading achievement. While this ground-breaking research is seen as establishing the veracity of the preschool literacy knowledge (specifically the child's emergent concepts of print, usually viewed as book knowledge) and later reading achievement relationship, an important confounding variable is often overlooked. In these studies, the measure of preschool print understanding used was a combination of scores from the Concepts of Print Test and a letter-knowledge test. The inclusion of letter identification, a task historically found to be a predictor of early reading achievement (deHirsch et al., 1966; Durrell, 1958; Walsh et al., 1988) clouds the interpretation of the findings of this research.

The current paper presents part of a larger, multi-faceted examination of emergent literacy and language. A variety of emergent literacy tasks and reading measures were used. While the former tasks often have been labelled under the rubric, meta-linguistic awareness, in this study the term meta-literate or meta-literacy awareness was used since the majority of print awareness measures did not focus on language. The purpose of this phase of the study was to examine: 1) the relationship between the home literacy environment and children's emerging meta-literate awareness and 2) the relationship between home literacy environment, meta-literacy awareness and reading skills development.

Method and Procedures

While this study was primarily correlational in design, some causal-comparative methods were included in order to compare performance on emergent literacy measures by age and home literacy environment.

Sixty three- and four-year-old children, attending a university child study center, formed the original cohort for this study. At the start of the project the mean age for the former group was 3.3 years, while for the latter the mean age was 4.2 years. Fifty children remained in year two. In the third year forty-five children remained, twenty-five of whom were followed into their grade one year for informal reading assessments. A total of forty-four of the children from the original cohort were tracked through grade two and standardized reading achievement scores were recorded for these subjects.

The preschool experience of these children did not include any formal instruction in reading or reading-related skills. Children were read to on a daily basis and were free to explore books throughout the preschool day (2 1/2 hours). In many cases, the books which were read to the children were used in conjunction with themes carried through the rest of the curriculum.

Subjects in this study represented various ethnic groups but were decidedly mid- to upper-middle class in terms of their social status. This factor, of course, is a limiting one for the study.

All tests and measures used during the preschool years were administered in the fall of each year by trained research assistants who had spent time in the children's classrooms. A one-month period was set as the time frame for data collection in an attempt to minimize maturation effects. Reading measures used when the children were in grades one and two were administered in the spring of each year.

Preschool Measures

Home Literacy Environment Index (HLEI). The HLEI is a researcher-created, eighteen-item parent questionnaire designed to elicit information regarding the literacy environment and interaction with literacy materials in the home. Areas covered include: quantity and variety of adult and child print material; frequency of children being read to; exposure to the writing process; and modelling of literacy skills. Each item requires a Likert-type response which can be scored from 0-4, thus producing differentiated item scores and a range of total HLEI scores. The HLEI was found to have a split-half reliability of .92 and a canonical discriminant function analysis indicated a classification accuracy rate of .78.

Concepts of Print Test. This measure, commonly referred to as the SAND test after the title of the book used to assess children's concepts about print, was designed by Marie Clay (1979) as part of a larger battery of reading measures. Twenty-four questions are asked as the story is read to the child. A factor-analytic study (Day et al., 1981) found that the SAND assesses book orientation concepts, print direction concepts, letter/word concepts, and advanced print concepts such as punctuation and word order. When the initial four-year-old subjects reached public school, two other measures of the battery, Writing Vocabulary and Sentence Dictation, were used to assess reading ability. These two measures have been found to have high correlations with the Stanford Achievement Test's total reading score and its component subtests (Harlin & Lipa, 1990).

Linguistic Awareness in Reading Readiness Test (LARR). This measure was designed to be a comprehensive survey of young children's concepts of literacy (Downing et al., 1982). Three subtests are used to assess children's recognition of literate behavior, their understanding of the purposes of literacy, and their knowledge of the language of literacy (initially this subtest was not used since it requires some reading ability). On the former subtests children examine pictures and are asked to circle something in the picture related to the task being assessed.

Lipa Logo Test. This measure is used to assess young children's ability to read environmental print (Lipa, 1984). Subjects are shown twelve familiar product logos with total contextual support and again, with reduced contextual support. Two response categories, generic and specific, are possible for each logo and word label (reduced contextual support condition).

Mow-Motorcycle Test. This measure of ability to map the spoken word with its orthographic representation (Rosin et al. 1974) is now part of the *Written Language Awareness Test* (Evans et al., 1979). Subjects are shown two words, one relatively brief in length and the other quite a bit longer. One word is read to the child who then must point to the appropriate written match. Of all the measures used in this study, the Mow-Motorcycle is the only one which might be considered a measure of meta-linguistic awareness (see earlier discussion of meta-literate vs. meta-linguistic awareness).

Identification of Written Language Test (IWLT). Another subtest of the *Written Language Awareness Test*, it is designed to assess the ability to discriminate writing from other marks. Subjects examine messages written in manuscript and in cursive writing, as well as strings of geometric shapes and letter-like forms.

Story Retelling Task. Used to assess children's developing sense of story, in this task subjects are given a wordless picture book, *Pancakes for Breakfast* (dePaola, 1978) to examine. After looking through the book they are directed to tell a story using the book to a stuffed animal sitting next to them.

Retellings are examined for number of story elements included and for number of literary devices (e.g. intonation, dialogue) used in the retelling.

Results

Home Literacy Environment and Meta-Literate Awareness

Pearson Product Moment Correlation Coefficients were computed between the Home Literacy Environment Index (HLEI) and all other measures during the first two years of the study. Correlations for the third year of the study were not conducted because some members of the original cohort had entered grade one and were administered different measures. The number of remaining preschool subjects was too small, considering the number of measures administered, to compute correlations.

In the first year the home literacy environment, as measured by the HLEI, was only related to performance on the Concepts of Print measure (SAND). Although statistically significant, this relationship was relatively small ($r = .21$, $p < .05$).

When these relationships were examined by age groups, it was found that HLEI was unrelated to SAND for the younger children. However, a relationship between HLEI and Recognizing Literacy Behavior ($r = .35$, $p < .05$) was found for this age group. A much stronger relationship between HLEI and SAND ($r = .48$, $p < .01$) emerged for the older children. With the older group, a moderate relationship between HLEI and the *Identification of Written Language Test* was discovered ($r = .47$, $p < .01$).

Also during this year, children at the extreme ends of the HLEI were compared on the Story Retelling Task. An analysis of variance was conducted for the number of story elements they included and the literary devices they employed in their retellings. Significant differences were found for the number of story elements ($F = 7.5$, $p < .001$) high HLEI four-year-olds included compared to lower HLEI four-year-olds. The former group retold more than twice as many of the story actions. In fact, the latter group did not produce significantly more story elements than the three-year-olds. Differences in the Literary Devices employed during the retelling were also significant ($F = 9.74$, $p < .001$). Higher HLEI four-year-olds were significantly ($p < .05$) superior to lower HLEI four-year-olds and used intonation, emphasis on words, descriptive language, interjections and literary language much more frequently. Lower HLEI four-year-olds included more literary devices than did higher HLEI and lower HLEI three-year-olds. Story Elements for three-year-olds also differed but did not reach significance. However, of some interest was the pattern of differences between these three groups. In the use of intonation and emphasis on words, lower HLEI four-year-olds and higher HLEI three-year-olds were identical. Differences were seen for use of literary language and descriptive language with the lower HLEI four-year-olds superior to both groups of three-year-olds and no differences between the latter groups.

Correlations for the second year, when the children were four and five years old, included four new areas: story concepts, represented by Story Elements and Literary Devices, a visual boundary task and the third subtest of the LARR, "Technical Language of Literacy." The latter measure had been previously excluded due to the fact that it required some reading ability beyond the reading of environmental print.

Table 1. Pearson Product Moment Correlations Between Home Literacy Environment and Selected Emergent Literacy Measures—Year 2

	SAND: Advanced Print Concepts	Mow Motorcycle	Logo Specific	Word Label Specific	LARR—Understanding Literacy Functions
Home Literacy Environment Index	.33**	.26*	.24*	.26*	.41*

Note: **p < .01, *p < .05

As can be seen in Table 1, Year *2* correlations still remained in the low to moderate range. Home literacy environment (HLEI) was no longer related to SAND or LARR's "Recognizing Literacy Behavior." However, HLEI was found to be related to the second subtest, "Understanding Literacy Functions." It is likely that the "Technical Language of Literacy" subtest was still too difficult for this age group. This argument is strengthened by the fact that HLEI was related to SAND's most difficult area, Advanced Print Concepts, which does not require as much reading ability. Of interest is that with the now older population HLEI was correlated (albeit low correlations) with the meta-linguistic measure, MOW MOTORCYCLE, and the specific environmental print reading components of the Lipa Logo Test.

Since the number of measures used was rather large and the possibility existed that some of these measures were tapping into similar underlying structures, a series of factor analyses were conducted for the various years of the study. Factor solutions had to obtain eigenvalues greater than 1.0 and individual loadings of .60 or higher. As seen in Tables *2* and *3*, a five-factor solution emerged for Year 1 and in Year *2* a four-factor solution was found.

For both years, the factor loadings were conceptually acceptable and accounted for at least 60% of the variance in performance on the emergent literacy battery. For Year 1, Factor 1 was labelled Environmental Print Identification because the two tasks required specific rather than generic responses to logo stimuli. Since tasks loading on Factor 2 simply required a generic

Table 2. Year 1 Factor Solution

Factors (variance accounted for)	1 (24%)	2 (17%)	3 (12%)	4 (11%)	5 (10%)
Logo Specific	.85				
Word Label Specific	.83				
Logo Generic		.84			
Word Label Generic		.83			
SAND: Book Orientation			.79		
SAND: Print Concepts			.73		
LARR: Recognizing Literacy Behavior			.68		
IWLT				.85	
Mow Motorcycle				.68	
SAND: Letter Word Concepts					.77
SAND: Advanced Print Concepts					.74
LARR: Understanding Literacy Functions					.68

Table 3. Year 2 Factor Solution

Factors (variance accounted for)	1 (33%)	2 (14%)	3 (12%)	4 (10%)
Word Label Specific	.79			
Logo Specific	.74			
SAND: Advanced Print Concepts	.71			
IWLT	.64			
Mow Motorcycle	.64			
SAND: Book Orientation		.86		
SAND: Print Concepts		.82		
SAND: Letter Word Concepts		.65		
Story Elements			.91	
Literary Devices			.87	
Word Label Generic				.91
Logo Generic				.64

response ("pop" as opposed to "Pepsi") this was labelled Environmental Print Recognition. Loading on Factor 3 were tasks of book orientation, print direction and identification of literacy acts. Therefore it seemed reasonable to call this factor, Easy Concepts of Print. Factor 4 was labelled Discrimination of Print in that these tasks required the differentiation of types of printed stimuli and aural to graphic matching. The final factor consisted of the more difficult aspects of the SAND, letter/word concepts and advanced concepts of print like punctuation, and LARR's "Understanding Literacy Functions" and was called Harder Concepts of Print.

Factor scores were then derived from these conceptually linked loadings in order to examine the effects of home literacy environment. Three- and four-year old subjects were divided at the median for their HLEI score. Analyses of variance were then performed on the data. A significant difference was found for the first factor, Environmental Print Identification ($p < .02$). Tukey-HSD post hoc analysis indicated that four-year-olds from higher home literacy environments were significantly superior to their age mates from lower home literacy environments. Three-year-olds from higher literacy homes also had higher scores than four-year-olds from lower home literacy environments but this finding did not reach statistical significance.

When subjects were one year older the factor solution was very similar with two exceptions. First, the sense of story tasks were included with this data set. Second, Environmental Print Identification became the largest factor and now included the previous Factor 4, Discrimination of Print and SAND's Advanced Print Concepts. Easier Concepts of Print emerged as the second factor accounting. The sense of story measures loaded apart from all other measures and this factor was labelled Story Concepts. The final factor included the simpler level of response to the logo tasks (Environmental Print Recognition). The merging of Harder Concepts of Print (meta-literate tasks), Word Label reading of environmental print, and Meta-linguistic awareness (MOW/MOTORCYCLE) as the children aged is of developmental interest.

Analyses of variance with the factor scores based on the Year 2 solution yielded a significant difference of HLEI, again favoring the four-year old group, only for Factor 2: Easier Concepts of Print.

Home Literacy Environment and Later Reading Achievement

When the four-year-olds of the original cohort reached grade one they were administered two additional parts of the Clay Battery to examine reading ability (school district policies prohibited standardized measures): the Writing Vocabulary task, in which children have ten minutes to write down all the words they know, and the Sentence Dictation task, where subjects write a dictated sentence. When these two measures were entered into a factor analysis they loaded together forming a distinct factor. Since words

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had to be written correctly on both of these measures to receive credit, this factor was conceptualized as a form of word recognition assuming that the ability to write words correctly required the ability to read them accurately. This assumption was supported by Harlin and Lipa (1990) who found these two measures to be highly predictive of performance on the Stanford Achievement Test's total reading score.

Pearson Product Moment correlations were calculated between the preschool variables and the Factor score derived from the combination of Writing Vocabulary and Sentence Dictation. No HLEI relationship was found with this Reading variable for the twenty-five children.

In the two subsequent years, standardized testing of the school age population became possible using the *Gates-MacGinitie Reading Test*. Path Analyses were conducted with Home Literacy Environment (HLEI), Grade One and Grade Two Gates-MacGinitie scores, and the variables derived from a three factor solution, which emerged when commonalities across all three preschool years were considered. These conceptually strong areas were labelled: Story Concepts from the story retelling task; Print Concepts from the SAND and LARR, and; Symbol Concepts from the Lipa Logo Test. The conceptualized path tested was the separate contribution of each preschool variable and HLEI to the outcome measures.

For the Grade One Gates-MacGinitie score, significant path coefficients were reported for HLEI (.71, $p < .01$) and Story Concepts in Year One (.43, $p < .01$). No other path coefficients were significant and with the exception of two relationships, each year's preschool variables did not have significant coefficients. HLEI was not a significant contributor for Grade Two Gates-MacGinitie scores.

Discussion

It is widely believed that school success is related to the environment provided in the home and that home also has a large impact on preschool youngsters' development of emerging concepts of literacy and language. The present study did find support for this belief. However, at first glance this support appears far from robust. While low to moderate relationships between home literacy environment and some meta-literate tasks were seen, they were primarily the former. For the youngest preschool children in this study, the home literacy environment was found to be related to their emerging Concepts of Print (SAND) scores. For older preschoolers the literacy environment of the home was somewhat related to their abilities to identify environmental print and to map a spoken word to its orthographic representation. With this group a stronger relationship was seen between the home literacy environment and the children's understandings of the functions of literacy.

When a more conservative test of this relationship was explored, by using scores derived from factor analyses, the support for the relationship of home literacy environment to preschool children's emerging meta-literate concepts weakened. The only significant correlation occurred with Story Concepts of four-year old children. However, this lends some support for Wells' (1985) notion of the importance of reading to young children.

It is of interest, however, that home literacy environment became more of a factor when combined with age. Higher home literacy four-year-olds tended to display more literacy knowledge than did lower home literacy environment age mates, while this was not generally the case for three-year-olds. Of some relevance to the belief that home environment is important was the finding on two tasks, SAND's Advanced Print Concepts and MOW/MOTORCYCLE (the meta-linguistic awareness task), that higher home literacy environment three-year-olds outperformed lower home literacy environment four-year-olds. On the former task the difference was found to be statistically significant. However, like the correlational analyses, when factor scores were used the findings weakened. Significant differences were only found for Environmental Print Identification in Year One and Concepts of Print in Year Two.

At first consideration, the lack of robust support for the relationship between home literacy environment and children's emerging awareness of literacy is surprising since it is accepted that a relationship exists. One possible explanation lies with the instrument used to elicit information on the home literacy environment. Since this instrument was a questionnaire filled out at home without the presence of the researcher, it is possible that parents misreported. However, in pilot studies home visits confirmed most parental responses. This fact plus the size of the sample led to the belief that misreporting would not be a problem. As well, misreporting can also occur during interviews, although elaboration can be sought in that mode. Since this could not be done with the HLEI it remains possible that some differences between homes might have been lost due to the misreporting factor. Another possible explanation lies with the fact that the HLEI was only administered in the first year of the project. It could be that the home literacy environment changed enough that by the later years in the project early differences were washed out by later environmental and socialization practices.

A more likely explanation for the lack of a strong relationship between HLEI and meta-literate tasks lies in the composition of the sample. The University Child Study Center, like other university affiliated preschools used in the majority of studies with this age group, attracts highly literate parents. We can therefore assume that while some of the children came from relatively low income homes, all children most likely lived in homes with a high bias toward literacy. In all likelihood this bias would mask differences in performance on meta-literate tasks. Since some significant correlations were found with this narrow-ranged sample between higher and lower home literacy environment four-year-olds, and on some tasks higher home literacy environment three-year-olds outperformed lower home literacy environment four-year-olds, the modest results of this study may be viewed in a more positive light. Had the sample been more diverse in their home literacy environment it is possible that stronger relationships would have been discovered.

Similar to the results regarding the relationship of home literacy environment with meta-literate awareness were the findings between home literacy environment and school reading achievement. Findings were inconsistent. Correlations between these two variables were not significant when the Clay Battery subtests comprised the reading measure. However, when a path analysis was conducted using the grade one Gates-MacGinitie scores, the home environment was a significant predictor of reading achievement. Possible explanations for this inconsistency might center around the different measures of reading and/or the similar backgrounds of the sample population.

While this study suffered from some of the limitations found in other studies, namely the lack of a diverse sample, there was little subject mortality. In fact, virtually an in-tact sample remained for the elementary school follow-up. Furthermore, the range of measures employed and the use of factor scores in the analysis overcomes the likelihood that single measures may tap into more than one ability, such as the amalgamation of the Concepts of Print and a letter-naming task (Wells, 1985).

It has long been thought that a relationship must exist between the home environment and young children's emergent literacy and later reading achievement. This study lends modest support for that thesis. With a relatively upper middle-class population, differences in home literacy environment were related to some differential performance on meta-literate tasks. Along with age-related differences and interactions between age and home literacy environment, we see that the manner in which several aspects of meta-literate awareness emerge can vary. As well, there was some indication that home literacy environment also might be related to grade one reading achievement scores. It became clear in this study that the home environment might have some impact on the order of differences which emerged in aspects of meta-literate knowledge because in some areas, such as Story Concepts, three-year-olds from higher literacy environment homes outperformed four-year-olds from homes with a lower bias toward literacy. These findings hold implications for curricula decisions made with these age groups in that all instructional decisions should be reached in conjunction with examination of the meta-literate knowledge which children bring from the home. Above all, reading educators must design programs which will nurture the emergent knowledge which young children from varying backgrounds possess.

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FAST START: A PARENTAL INVOLVEMENT READING PROGRAM FOR PRIMARY GRADE STUDENTS

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Abstract

The Fast Start program is a parent involvement intervention program for primary grade children. This program is designed to get children off to a successful start in reading through intensive and systematic parental involvement that is coordinated through the school. The activity inherent in Fast Start is simple to learn, easy to implement, highly efficient in the amount of time invested by parents, and cost-effective for schools to implement. For these reasons, Fast Start holds the promise of being an effective and useful tool for involving parents in literacy learning with their children.

In Fast Start parents and children read a brief, highly predictable, and interesting text each day. The reading involves parents reading to their child, paired reading, and in time the child reading on his or her own. Repeated readings help build children's fluency, word recognition, and comprehension. After the text has been read, parents and children engage in word exploration activities. A preliminary study of Fast Start has demonstrated that it has positive effects on primary students' word recognition, fluency, and overall reading proficiency.

Although a critical and essential learning task in the primary grades is reading and writing (literacy) development, many primary grade students experience considerable difficulty in achieving appropriate levels of reading proficiency. For example, according to data from the National Assessment of Educational Progress (NAEP) over 25% of fourth grade students in the 1988 NAEP were unable to successfully answer specific information questions about a passage they had read, and over a third were not successful in answering main idea questions. Results of the 1992 NAEP show similar results, with the average 4th grade student in every state reading below the proficient level.

Difficulties in developing proficiency in the early grades can lead to severe academic difficulties throughout students' schooling. Longitudinal studies have found that third-grade students who are reading below grade level or have failed at least one grade are not likely to complete 12th grade (Lloyd, 1978; Kelly, Veldman, & McGuire, 1964). Moreover, efforts aimed at alleviating reading difficulties for students above third grade are seldom successful (Kennedy, Birman, & Demaline, 1986). Thus, it is critical that primary grade students be given every opportunity and strong instructional support to develop early proficiency in reading. As Stanovich (1986), paraphrasing Walberg and Tsai (1983), has suggested ". . . individuals who have advantageous early educational experiences are able to utilize new educational experiences more efficiently" (p. 381).

Helping Children Progress in Reading

During the primary grades, two critical reading competencies that students must develop for further growth in reading are word recognition and reading fluency (Chall, Jacobs, & Baldwin, 1990; Freebody & Byrne, 1988; Perfetti, 1985; Stanovich, 1986). Word recognition refers to the ability to correctly identify or pronounce words from a written format, while fluency refers to the ease or automaticity in identifying words, phrasing, and use of appropriate expression in reading connected written discourse. In a study of over 600 elementary students experiencing difficulty in reading, Rasinski and Padak (1993) found that fluency and, to a lesser extent, word recognition, were the major reading problems confronting these students.

It is generally agreed that intervention and preventive programs for younger students hold the greatest promise for lasting success (Slavin, Karweit, & Madden, 1989). Reading Recovery (Pinnell, DeFord, & Lyons, 1988), an intervention program limited to first grade students experiencing significant difficulty in reading, has been found very successful in bringing first-graders up to par with their average-achieving classmates and maintaining that position in subsequent years. Several other promising early intervention programs in reading have also been developed and described (Pikulski, 1994). In all of the successful classroom-based programs, the development of proficiency in word recognition and fluency are major goals.

Word recognition and fluency can be developed through a variety of instructional approaches. Perhaps the most significant way to develop these competencies is through extensive contextual reading (Stanovich, 1986). Yet, a considerable amount of research has shown that students who experience difficulty in reading actually do little contextual reading in or out of school (Allington, 1977, 1980, 1983a, 1983b, 1984; Fielding, Wilson, & Anderson, 1986; Nagy & Anderson, 1986). The evidence suggests that increased amounts of contextual reading is associated with and leads to greater levels of achievement.

Effective instructional approaches for young readers that develop word recognition, fluency, and comprehension using whole texts are known (Rasinski, 1989a). Among the most effective methods are modeling fluent reading and word recognition (Beaver, 1982), repeated readings of whole texts (Dowhower, 1987; Herman, 1985; Hoffman, 1987; Koskinen & Blum, 1984, 1986; Samuels, 1979), providing online support while reading (Carbo, 1978; Chomsky, 1976; Gamby, 1983; Heckelman, 1969; Laffey & Kelly, 1981; Schneeberg, 1977; Van Der Leij, 1981), and the use of predictable and patterned texts for younger readers (Walker & Rasinski, 1990). Rasinski (1989a) has suggested that these "principles" of instruction in fluency and word recognition can be used to develop informed instructional approaches that combine the principles in effective and integrative lessons. Using such an orientation, Rasinski, Padak, Linek, and Sturtevant (1994) developed a "Fluency Development Lesson" that proved highly successful in improving the fluency and overall reading proficiency of second grade students in an inner city school who were reading significantly below grade expectations prior to the intervention.

In sum, it is widely accepted that the primary grades are critical to students' current and later success in reading and school in general. Early intervention has been found effective in helping young children who are experiencing difficulty in learning to read. Two critical factors in developing early proficient reading are word recognition and fluency. Moreover, effective approaches for improving word recognition and fluency in young students are available. Thus, research suggests that supplementary and preventative instructional efforts aimed at improving the word recognition and fluency of primary grade readers offer tremendous potential for helping all primary students develop as proficient readers. We know the type of additional support that is required to help readers, we know how to present that support to students, and we know when that support is most effective. The critical question, then, becomes how that additional support can be provided when the school curriculum is full. One answer, I believe, is in the home.

Parental Involvement and Children's Reading Progress

Parent involvement has the potential for making a significant impact on children's education. Extensive reviews of research on the impact of parental involvement on children's academic achievement has found that parents can play a major role in their children's academic success (Epstein, 1984, 1987; Henderson, 1987, 1988). Henderson, for example, concluded that parental involvement leads to improvement in student achievement, grades, test scores, and overall academic performance. Moreover, she argued that parental involvement in education has the secondary but significant effect of improving the perceived effectiveness of schools by the local community and by academic evaluators, and also can positively influence the attitudes and mutual respect of families and educators.

Studies of the effects of parental involvement on reading have demonstrated equally positive results. A line of research dating back to the mid-1960's has consistently found facilitative effects of parental home involvement on children's reading development (Bean, Southworth, Koebler, & Fotta, 1990; Durkin, 1966; Epstein & Becker, 1982; Greaney, 1986; Griffiths & Hamilton, 1984; Hannon, 1986a, 1986b, 1987; Hewison & Tizard, 1980; Lewis, 1990; Manning & Manning, 1984; Miller, 1986; Shuck, Ulsh, & Platt, 1983; Tizard, Schofield, & Hewison, 1982; Topping, 1986, 1987). This research strongly suggests that when parents are involved in their children's reading in substantive, consistent, and ongoing ways, the children experience significant and substantial improvement in reading. Recent results from the 1992 NAEP indicate that students who had literacy-related interactions within their families had higher levels of reading achievement than students reporting few or no such interactions.

Despite the great potential promised by parental involvement, actual attempts by schools and teachers to develop and maintain ongoing parent involvement programs in reading are rather few in number (Rasinski, 1989b). In a survey of elementary teachers, for example, Rasinski and Linek (1991) found that although over 90% of teachers felt that parental involvement was crucial to children's reading development, less than a third indicated that they made attempts to involve parents in the reading curriculum. Moreover, less than 40% of that number were satisfied with their efforts to involve parents. Similar findings have been reported in other studies (Becker & Epstein, 1982; Taylor & Leitman, 1991; Walde & Baker, 1990). Indeed, a review of the literature in this area reveals that there are no extant or proven models of parental involvement in reading and writing education in this country for whole classrooms of children. The most common type of reading and writing program for parental involvement is the "one-shot" affair such as talks by local experts for parents, "make it and take it" workshops, mail order programs, and short term incentive programs. For all of these programs, there is no evidence of their effectiveness in improving students' reading or attitudes toward reading.

Several possible explanations have been cited for the poor record of parental involvement program efforts. These include lack of time, rewards, and administrative support for teachers; insufficient time for parents to work with their children; parents' lack of ability and motivation to implement learning activities with their children; lack of enjoyment and functionality of the learning experiences for parents and children; inconsistency of implementation; lack of appropriate materials as well as training and support from the school; the lack of real reading and informal interaction between parents and children; questionable benefits for certain subgroups of students such as older students; and the unwillingness of some parents to take responsibility for the education of their children (Epstein & Becker, 1982; Exceptional Child Center, 1976; Holsinger, 1979; Rasinski & Fredericks, 1989; Walde & Baker, 1990). The obstacles to real and substantive parental involvement in reading are therefore considerable, but research does indicate that most parents are willing to work with teachers and schools to help their children achieve academically (Chavkin & Williams, 1985; Granowsky, Middleton, & Mumford, 1979; Rasinski & Fredericks, 1989; Williams & Stallworth, 1983-1984).

As noted earlier in this paper, the amount of reading done outside school is positively associated with progress in reading. Nevertheless, most students do very little reading at home. In one study of fifth graders who were asked to keep logs of their out-of-school reading, it was found that students spent less than 5 minutes per day in contextual reading (Anderson, Wilson, & Fielding, 1988). Thus, although many students do not currently engage in extensive reading at home, the potential for improving this situation and students' reading through active parental involvement is enormous.

In response to the reasons cited for problems in initiating and maintaining parental involvement programs, Rasinski (1995; Rasinski & Fredericks, 1987) has identified a set of principles or characteristics that can guide educators in the development of effective and lasting parental involvement programs in reading. These principles include the following: 1) develop instructional activities for parents that are based upon proven and effective strategies for promoting growth in reading; 2) make the instructional activity parents are to engage in with their children simple, brief, easy to implement, and consistent from one day to the next; 3) provide effective initial and follow up training, communication, and support for parents; 4) insure that the activity involves real reading of authentic texts; 5) provide texts and other materials for parents; 6) insure that the instructional activity is enjoyable for parents and children, that it can be implemented in an informal and interactive manner, guided both by parents and children, and that parents provide positive encouragement and reinforcement to their children; 7) provide mechanisms for parents to document and account for their work with their children; 8) plan for the long term and be consistent in terms of the activities parents and children are asked to engage in (do not plan major changes or disruptions in the instructional activities and procedures for parents and children; rather, vary texts and how parents and children respond to the reading). Research does indicate that when even a limited number of potentially problematic areas are addressed, parental programs can be effective (e.g. Clegg, 1973; Glynn, McNaughton, Robinson, & Quinn, 1979; Holsinger, 1979; Hoskisson, 1975; Keele & Harrison, 1972; Meckler, 1972; Morgan & Lyon, 1979; Mudre & McCormick, 1989; Neidermeyer, 1970; Ryback & Staats, 1970; Smith, 1971; Sullivan & La Beaune, 1970; Thurston, 1977).

The Fast Start program described in this report embodies these principles in an informal instructional package that is very workable, motivating, and time efficient for parents and children.

The Fast Start Parental Involvement Program in Reading

The goals of the Fast Start Program are to increase all student participants' reading achievement through long-term parent involvement. Effective strategies are used to increase the amount of contextual reading done by students and improve reading fluency, word recognition, and comprehension. Second, the program aims to improve parental perceptions of teachers and schools, and teacher perceptions of the role of parents in the educational process. The Fast Start program adheres to all of Rasinski's principles of effective parental involvement programs.

The Fast Start program consists of an instructional procedure that parents are asked to implement on a daily basis. It involves the following steps:

1. Parents are provided with short whole texts selected by the school or teacher for their content, patterned and predictable nature, and appropriate readability for first grade. Nursery rhymes and verse poetry are examples of the type of texts that are used.
2. Parents are asked to work with their children daily for 10-15 minutes at regular, specified, and convenient times.
3. Parent and child sit together. Parent and child read text in the following manner, while the parent draws child's attention to the text while reading by pointing to the appropriate lines and words.
    a. Parent reads text to child several times until child is familiar with the passage. Parent and child discuss content of the passage.
    b. Parent and child simultaneously read passage in a manner similar to Paired Reading or Neurological Impress reading. Passage is read several times until child feels comfortable with reading the text alone.
    c. Child reads text alone with parent providing backup or shadow reading support. Text is again read several times.
4. After having read the text several times, parent and child each choose one or two words of interest from the text. The words are printed on cards, added to word cards from previous days, and used for word practice, sentence building, word sorts, and other informal word games and activities.
5. Parents keep a daily log of the time spent working with their children, the text used, and the activities engaged in. The log is turned in periodically to the teacher.
6. Parents work with their children in this way daily, if possible. Parents may work with one passage over several days and may return to previously read passages throughout the duration of project.

7. Parents also are encouraged throughout the duration of the project to read to their children as much as possible, to write with their children, and to create a home environment conducive to literacy learning. Specific suggestions for accomplishing these activities are provided to parents in a regular newsletter.

The reading activities that are central to Fast Start are based upon proven methods for developing word recognition, fluency, and comprehension (Rasinski, 1989a). The word study activities are designed to develop students' phonemic awareness (Adams, 1990) and phonic knowledge of onsets and rimes (Cunningham, 1991; Cunningham & Cunningham, 1992; Stahl, 1992) in an informal and interactive manner.

Parents are given specific training on the Fast Start method that consists of a 90-minute explanation and demonstration with reference and resource materials that parents can keep. Multiple training sessions are offered as well as individual consultations in person or by telephone with parents. Parents are also sent written follow-up materials in the form of monthly newsletters that provide additional information on refining, extending, and providing variety to Fast Start. Other information related to the literacy development of young students is also shared in the newsletters. Teachers monitor the completed log sheets returned by parents and contact those parents who appear to be experiencing difficulty in implementing the project. At the end of the Fast Start program, a session is provided for parents in order to thank them for their participation, obtain feedback on their perceptions of the program, and provide them with information on continuing their children's development in literacy in the future.

At the beginning of each month children take home a packet of texts to read with their parents using the Fast Start method, a newsletter that provides additional information on the program and ideas for extending the reading into games and other enjoyable family activities, and a monthly log sheet on which parents record their daily participation in Fast Start with their children. Parents are asked to return the previous month's log sheet upon receipt of the new month's packet. This monthly procedure begins after the initial training session and runs through the end of the program.

Evaluation

Fast Start was implemented in an informal pilot study with children who receive corrective reading instruction at a university reading clinic and their parents. Students who were part of the group receiving the Fast Start supplementary instruction made substantially greater improvements in reading than students who were not involved in the program. Moreover, the level of student growth in reading was positively and significantly correlated with the degree of parent involvement in the program. Significant correlations, in the range of magnitude of $r = .60$ to $.79$, were found for levels of parental involvement and student growth in word recognition and reading fluency. These results are particularly impressive in light of the fact that the duration of the pilot program was five weeks and students who participated in the study were significantly delayed in their reading development.

Discussion and Conclusion

Although the Fast Start program is relatively new and has been implemented and tested on an informal basis, the potential for its effect on children's reading development seems clear. The program is theoretically sound. It is based upon acknowledged theory and research in reading and parent involvement as well as proven methods of instruction. Preliminary implementation of the program over several multiple week periods have demonstrated very promising results.

Teachers and schools benefit from the Fast Start program as parents become more aware and appreciative of the work of schools and teachers. Parents benefit from becoming better able to help their children in their academic work. Teachers and parents benefit from more open and mutually supportive lines of communication between home and school.

In addition to the potential effectiveness of Fast Start, the program has several pragmatic features that make it additionally attractive to schools and parents. It is very economical in terms of cost and time. The major cost is providing parents with materials. If public domain material such as nursery rhymes are used, the major expense is the duplication of the texts and newsletters. I estimate that an eight-month Fast Start implementation for a classroom of 25 students would cost less than $300 total (26 copies per month x $.05 per copy x 8 month duration of project x 25 students = $260). This amount pales in comparison with other early intervention programs. Dyer (1992), for example, estimated that the cost for Reading Recovery instruction for one child for a half year is over $2,000.

Time involvement for teachers also is minimized since parents are the ones who are providing the instruction. The major time commitment is in the form of parent training and development of materials. Based upon my own experience with the program, I estimate that, at most, a classroom teacher would need three hours per month to implement the program in the first year. Succeeding years would require an even smaller time commitment.

For parents and children, the program is easy to learn and implement. It requires only about 15 minutes per session and parents and children find the activities enjoyable when approached in an interactive and informal manner.

It's time reading professionals take systematic parental involvement seriously. Research has provided clear evidence that parental involvement in education has positive effects on children's learning. The Fast Start program described here is an early attempt to make systematic parent involvement in reading a reality. The promising results to date hopefully will lead to other models of effective and efficient parent involvement that will make learning to read a bit easier and more meaningful for many children.

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LISTENING TO LEARNERS: DIALOGUE JOURNALS IN A FAMILY LITERACY PROGRAM

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Abstract

This six-week study explored how low-income, low-literate parents in a family literacy program used dialogue journals to describe their literacy experiences and their daily lives. The dialogue journal entries, as well as pre- and post-interviews and observations, were analyzed to determine patterns and to develop categories of responses. The following categories of responses emerged from the data: family roles, goal setting, personal issues and challenges, literary uses, and feedback on the program. The journals served as a good source of information for the researchers and as an authentic reading and writing context for the parents to express their own voices. The results of this study indicated these families used literacy for a variety of purposes as they worked toward goals and to overcome obstacles in their lives.

Dialogue journals are places for students and teachers to converse with each other in writing about feelings, ideas, and concerns of everyday life (Staton, 1987). These journals provide opportunities for parents in family literacy programs to voice their concerns about their children, their life struggles, and their learning. These issues, then, become a framework for the curriculum rather than obstacles to be overcome in these families' pursuits of literacy development (Auerbach, 1989).

The power of dialogue journals as a tool for literacy development has been well-documented in elementary education (Bode, 1989; Gambrell, 1985; Peyton & Staton, 1993), ESL and deaf education (Kreeft, Shuy, Staton, Reed, & Morroy, 1984; Staton,1987), and preservice teacher education (Bean & Zulich, 1992; Hennings, 1992; Lee & Zuercher, 1993). Using dialogue journals in family literacy programs, however, is a relatively new approach. This article focuses on a preliminary study exploring how low-income, low-literate parents in a family literacy program described their experiences in the program and reflected on their daily lives when they wrote in dialogue journals.

The rationale for using dialogue journals is that writing is a tool for learning. This perspective finds its base in the concepts of meaning construction and making connections. Vygotsky (1962) visualized language and thought as two overlapping circles. Where they overlapped, language served as the structure or framework for thought. Vygotsky believed that language is so essential to the development of thought that he recommended writing be taught in pre-school as a way to advance the thinking and learning processes (1978).

Language has qualities of remoteness or arbitrariness that make it separate from events themselves. The learner can use language to reconstruct events of the past to seek meaning. When writing the learner is thinking aloud on paper. Writing is thinking and learning at the same time—the same process. In other words, the learner does not know what he thinks until he writes it (Britton et al., 1975; D'Arcy, 1977; Murray, 1984; Zinsser, 1988).

In dialogue journals the emphasis is on writing what one is thinking rather than on perfection of mechanics and grades. Expressing thoughts to a partner makes the tone of dialogue journals conversational. By providing text that has immediate relevance for the reader, meaning is constructed between the partners. Where writing is informal, conversational, and nonthreatening as in dialogue journals, authentic opportunities for writing and making connections or constructing meaning exist (Applebee, Langer, & Mullins,1987; Fulwiler, 1987; Rigg & Kazamek, 1993; Purcell-Gates, 1993).

Writing in dialogue journals is different from personal journal writing or school assignment writing in that the writer always writes with an audience in mind—the partner. Knowing that someone is going to read the text and respond to it on a personal basis is a powerful incentive for making the text accurately reflect the intended meaning. The writer also anticipates reading the response hoping it will add to new meanings and new constructions of thought (Bode, 1989; Peyton, 1993; Staton, 1987).

Dialogue journals also provide an opportunity for Vygotskian mediated or assisted learning. Through the written discourse, the expert teacher can model thinking processes and the use of writing conventions while collaborating with the student in the construction of meaning. This presupposes that teachers are writers as well who openly share the drafting of ideas and feelings through their own attempts at the writing process (Atwell, 1987; Calkins, 1986; Graves, 1983; Murray, 1984).

Nonmainstream adults who attend literacy programs are often accustomed to living in a culture of silence (Freire, 1970; Shor & Freire, 1987). They believe they have no voice in what happens to them. They may feel the institutions and social service programs with which they must deal to survive in this society are more concerned with enforcing the rules and regulations than with hearing how the recipients feel about their needs or concerns. These adults often feel powerless to do anything to change their situations (Auerbach, 1989; Taylor & Dorsey-Gaines, 1988).

Freire (1970) proposed that mainstream society must change some attitudes before nonmainstream persons can be empowered. Educators and students need to abandon the banking model of education where all the knowledge comes from the teachers and is poured into the minds of students. Rather, literacy is a practice, not something one can give another. Kazamek (1992) warned that adult literacy should not become synonymous with job training. Given a wider perspective of literacy as a complex and interactive system, adult students are enabled to control their own lives as they learn to read and write with their teachers. Therefore, educators need to recognize that learning and literacy are interactive processes. Teachers and students construct knowledge together (Wells, 1986).

As first teachers, parents have a prior and immediate role in the interactive learning processes with their children. Learning what is relevant to the lives of these adults and finding ways to help these parents generate their own thoughts in their own language is the task of the educator/facilitator (Auerbach, 1989; Pellegrini, 1991).

By writing in a dialogue journal, the adult beginning reader creates her own text for reading. It is relevant text about the writer's life in the writer's own words. This text validates life as the beginning reader/writer knows it. In writing, the student creates both an individual voice and empowerment of her own learning (Auerbach, 1989; Purcell-Gates, 1993). Facilitating a student's writing on a regular basis not only provides authentic text for her to read, but also conveys to her that she has something important to say (Rigg & Kazamek, 1993). In responding, the teacher also validates the student's voice and the student's knowledge, thus learning collaboratively with the student (Staton, 1987).

Framed within the research and theory of literacy development from a sociocultural perspective, this study explored how low-income, low-literate parents in a family literacy program described their daily lives and experiences. Two questions guided the research. First, how do parents in a family literacy program describe their experiences in the program? Secondly, how do these parents describe their daily lives and uses of literacy?

Research Context

Subjects

This study involved 16 mothers of children ages four to twelve. The parents were participants in an existing adult literacy program and, upon entrance into the program, were reading at or below a fifth-grade level. Participation in the adult program was a condition for receiving government assistance. However, involvement in this study was voluntary.

Research Site

Research was conducted at an adult literacy program in a mid-size Ohio city. The classroom was located in a downtown social services building complex.

Program Description

This study consisted of a six-week program designed to engage parents and their children in literacy activities and explore local cultural offerings. Some of the activities were storytelling, puppetry, and shared reading. Field trips to the main public library and the local art museum involved hands-on learning experiences. Throughout the program, a collection of children's literature was available to both the adults and the children for borrowing, reading, sharing, and eventually keeping.

Parents and children attended the sessions together. Each session began with browsing and borrowing from the book collection. During this time, a program facilitator informally shared and discussed books with the children and parents. Explanations and discussions of the weekly topic followed. A hands-on activity, guest speaker, or field trip comprised the bulk of the sessions. At the end of each session, the families received all materials necessary to continue doing literacy activities at home.

Prior to the completion of the activities, parents wrote dialogue journal entries. Each week a facilitator responded in writing to the entries. These entries provided the facilitators with information regarding the parents' lives, experiences, goals, and suggestions for the program.

Methodology

Data Sources

This descriptive study used multiple data sources. These were dialogue journal entries, pre- and post-interviews, and observations. Triangulation of these sources allowed the researchers to capitalize on the strengths of each method while minimizing their deficiencies (Merriam, 1988).

Dialogue journals. Dialogue journals served as the primary source of data for this study. Each parent was paired with one facilitator for dialogue journal writing. In personal letter format, the facilitator wrote questions regarding literacy activities, shared personal experiences with parenting, and responded to her partner's comments. Six dialogue journal entries were collected from each parent.

Interviews. Preliminary and post interviews were conducted with each parent. The open-ended questions and statements in the interviews solicited information regarding attitudes toward literacy. They also asked what literacy activities and materials the parents and children used at home. The interviews enabled the researchers to systematically collect data regarding the range and frequency of literacy behaviors and activities in the homes. (See Appendix).

Observations. Each week the facilitators discussed parent and child literacy behaviors observed during the session and recorded the observations. This enabled the facilitators to determine first-hand the literacy behaviors of the parents and children as they were happening in the program (Merriam, 1988).

Analysis

The constant comparative method (Glaser & Strauss, 1967) was utilized throughout the analysis. Initially, the researchers independently read all the entries and made memos and preliminary codings as they read each entry. As the readings progressed, each entry was constantly compared to the previous entry to determine likes or differences. After several entries were coded, patterns of categories and characteristics within the categories began to emerge. After the independent readings, the researchers met to compare their findings and arrive at a consensus regarding the categories. Consensus was based upon consistency found among the entries themselves triangulated with information provided by the interviews and observations. Analysis of these patterns led to the development of preliminary theory to explain the nature of literacy behaviors and life experiences of the participants during this program.

Categories of Responses

Five categories of responses emerged from the data. These categories represent the range of experiences described within the dialogue journal entries and interviews, and they also express the behaviors and interactions observed during program sessions. The five categories were: family roles, personal issues and challenges, goal setting, literacy uses, and feedback on the program.

Family Roles

The participants in this study consistently described themselves within the context of their families in their dialogue journals entries and interviews. Many of the journal entries identified and discussed the roles played by members of the family. Participants frequently referred to themselves and their family members by their role names, including mother, daughter, son, nephew, and grandmother.

The nature of family relationships was the focus of several participants' journal entries. Ronni discussed the dynamic nature of her relationship with her seven-year-old daughter in the following journal entry. "My daughter and myself sometime we have a hard time but we are getting better, but it is hard because she want her way and I do too." During both interviews, Ronni mentioned the struggle she had limiting her daughter's use of Nintendo. "She gets lost in Nintendo. I make her stop." Capitalizing on the daughter's interest in electronic games, Ronni showed her some of the computer programs she uses in her adult class while they were waiting for the session to begin.

Several participants expressed uncertainty regarding the daily demands of being a mother. In the following entry, Katie discussed her feelings about being a good mother. "Jason like to talk about anything as long as some one will listen. Not that I don't think I am a good Mother it just I messed up on that last week." This mother admitted in the interviews that she does not like to read or write so that her son does not see her doing much reading and writing at home. Yet, Katie talked to Jason about his homework, had several books and writing materials available to him, brought him to every session, and encouraged him to take books home to read.

During the study, two of the parents experienced major life-changing events that caused them to take on new and relinquish old roles within their families. These events and changes in family roles were described and discussed in their dialogue journals. The unplanned pregnancy of a teenage daughter caused one parent to grapple with the new role of grandmother while still feeling the need to be a mother to her pregnant daughter. The unexpected death of an adult son faced another parent, causing her to focus on her nephew as a way of dealing with her loss and grief.

Personal Issues and Challenges

As mentioned in the previous category, life-changing events occurred in the lives of two participants during this study. Shirley was faced with the unplanned pregnancy of her fifteen-year-old daughter, and she described the situation in the following dialogue journal entry. "My oldest daughter is making me a grandma. I'm not really ready for that. But It's all ready done." This change in family structure left Shirley with even more responsibility. She had been depending on her oldest daughter for child care for the younger three children. "My fifteen-year-old does more with the other kids than I do," she admitted in the pre-interview. Shirley brought no more than two children with her to the summer sessions, leaving one of the three at home with the oldest daughter.

As time went on, Shirley wrote in her dialogue journal that her daughter was going to stay in school and become part of a special program for pregnant teens. Family discussions reported in the post-interview centered around the daughter's pregnancy.

Marilyn disclosed in her dialogue journal that her son was killed by a drunk driver ten days earlier. "My son got hit by a drunk driving July 10—it was in the Newspaper—A 21 yr old Anthony M. and he died and I just get back to class yesterday. It's hard to because I missing he I just have my Nephew to spoil." Marilyn brought her six-year-old nephew to several of the sessions and participated in all the parent-child activities with him. Her participation was a departure from Marilyn's usual reaction to group activities where she just sat and watched.

The dialogue journals provided a safe forum for Shirley and Marilyn to describe and discuss these life-changing events. Moreover, the dialogue journals appear to have enabled them to think through and begin to deal with these events as they interacted in writing with a trusted partner—their facilitator who responded as a friend and fellow parent who had had some similar experiences in life.

In addition to these life-changing events, many of the parents struggled to find and maintain safe places for their families to live, and others addressed the realities of illnesses and obesity. When faced with serious personal issues and challenges, these things were foremost on the minds of the parents. Based on Auerbach's social-contextual approach to family literacy (1989), these issues and challenges became the focus of the dialogue journal entries.

Goal Setting

The parents showed an awareness of goal setting as a way to bring about changes in their lives. They shared their goals in their dialogue journals and interviews, and they were observed discussing their goals with their peers and facilitators during program sessions. The most common goals focused on securing G.E.D. certificates and jobs; however, other goals included getting married, getting more involved in their children's schools, and moving to a safer, more comfortable home.

Rachel described her goals in the following dialogue journal entry. "I would like to get my G.E.D. and go into business management and someday own my own business. I feel that I am a good cook (home made) and would like to own a restaurant." Unlike most parents who lived in the neighborhood or who could take a short bus ride, Rachel drove several miles to attend these special programs. Rachel spent many evenings at home doing her homework. In the interviews she reported her daughter saw her studying to pass her GED.

Literacy Uses

The families in this study used literacy for a variety of meaningful purposes. During interviews and program sessions, parents described reading newspapers, magazines, and television guides regularly. In addition, they reported frequently writing lists, notes, and greeting cards. Several of the parents related playing word games. Sherry said "We play guessing games with words." Shirley talked about playing matching card games like "Concentration." Rachel and her daughter played "Shoots and Ladders, watch Sesame Street and do games" for recreation. Jodine related playing "I Spy" games with her children. Literature also played a role in the lives of many of the families. Being able to relate to the characters, learn things, and be entertained were some of the main reasons parents cited for wanting to read literature. Each week parents and children took books home and returned them the following week. The children shared what they had read informally. Several parents were so intrigued by the selections in the collection of children's books that they borrowed them for their own reading. After borrowing the book, *Bridge to Terabithia*, from the program, Peggy wrote this entry in her journal.

> *Bridge to Terabithia* was the most touching book I have been able to read. Jess and Leslie I could see myself as them. I could see myself go across the bridge to Terabithia. Terabithia seem like a place that we would all like to have some time in our life, so if anyone gets a choose to read this book they would enjoy it a hole lot. I would never think that Leslie would drown or die in this story. I thought Jess and Leslie would grow up an get married.

Feedback on the Program

Parents provided feedback on the program through their dialogue journals, during post-interviews, and during program sessions. Their feedback assisted the facilitators with planning and implementing the sessions. Feedback tended to focus on responses to specific activities and field trips as evidenced in the following entries written by Margaret and Dana. Margaret wrote "I have a whole new concept about different thing in the library. I find a good cook-book. I even got me a library card." At the library Margaret was observed questioning the tour guide about why cook books were in the Science and Technology department. Margaret brought her boys each sessions and made sure they always had a book to take home.

Dana appeared pleased with the program and brought her granddaughter each session. She wrote in her journal, "Yes the library was nice and last week she really like the art museums. She had fun downstairs, that was nice to I enjoyed that it was the 1st time I went to the art museum." In spite of being just two blocks from their classroom, the visit to the local art museum was a first-time experience for all the parents. Dana also took the initiative to photograph parents and children participating in the activities of the six sessions. At the end of the summer program, she presented the facilitators with copies of the photos.

In her final entry, Dana described how she felt about writing in her dialogue journal each week with her facilitator, Beth. "Beth, I really enjoy talking to you this way You are a very nice lady. Thank for being my talk person."

Discussion of Categories

The explicit purpose of the family literacy program in this study was to facilitate and promote literacy interactions between mothers and their children. The dialogue journal entries, interviews, and observations served as a method for reporting and subsequently analyzing how this program helped facilitate intergenerational literacy practices. The category "literacy uses" explored this purpose and provided important insights into how these families used literacy. The other categories of responses and behaviors allowed the researchers to construct a more complex, complete picture of the families in this study. As evidenced by the categories "family roles," "personal issues and challenges," and "goal setting," social-contextual factors (Auerbach, 1989) were continually addressed in this family literacy program.

Conclusions

The information about these families gleaned from the dialogue journals was consistent with the information provided by the interviews and observations. Written in their own words and focusing on topics and issues that were important to the parents, these journal entries allowed the researchers to view things through the eyes and lives of the parents.

Regular attendance, enthusiastic participation in the activities, and unsolicited feedback on the program in lengthy journal entries indicated these parents felt involved in the program. Their feedback was generally well-founded and insightful as evidenced by the detailed explanations and examples they shared. Many of the parents reported they enjoyed reading the books and sharing them with their children. They also enjoyed sharing their classroom with their children. In the conversational tone of their entries, the partners addressed each other by name, answering questions and responding to the events in each other's lives. Partnering with a facilitator for dialogue journal writing appeared to give these parents a sense of audience and purpose for their writing.

These parents described themselves as family members. Whether mother, daughter, or aunt, their children were very important to them. Beyond the traditional role as primary caregiver, many of these parents described themselves as first teachers. Health, housing, and child care appeared to be the major concerns of their daily lives throughout many of their responses. They used their literacy skills to express and mediate these concerns. Another major function of literacy was setting academic and personal goals for themselves and their children. Many parents enjoyed reading books and magazines and playing literacy games in their leisure time. For whatever purposes literacy was used, it was used as a function of their daily lives.

Some limitations existed in this study. Time was a major limitation. The research was conducted during the summer, enabling school-age children to participate. However, the study took place within an existing adult literacy program allowing researchers to gain access for only six, two-hour sessions.

Therefore, the program activities could be introduced but not fully developed. In addition, limited time and staff prevented researchers from making home visits to observe actual literacy behaviors.

In this early stage of forming a paradigm for family literacy (Morrow, Paratore & Tracey, 1994), exploratory studies such as this provide a starting point upon which more extended studies can be conducted. In-depth research into family literacy is currently being done regarding the following questions: 1) How do family literacy programs respond to and incorporate the social contextual factors of these families into the curriculum and provision of services? 2) How can parents develop their own voice and demonstrate the quality of their literacy advancement for themselves and their children in family literacy programs?

By listening to what learners have to say, family literacy educators and researchers may be better able to design and evaluate responsive programs. The data in this study indicate that family literacy goes far beyond sharing books and writing. While encompassing the very essence of being part of a family, parents and children use literacy to work toward goals and overcome obstacles.

Some dialogue journal entries were edited for spelling to assist the reader. Names of the participants were changed for confidentiality.

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Appendix: Parent Interview*

Name ______________________________

Participated last summer? ______________________________

Last grade completed ______________________________

Child/Chidren	Name	Age	Sex	Grade

I. Parents' Reading and Writing Activities with Children

1. Why do you think some children learn to read and write well in school and others don't?

2. What reading and writing activities do you do with your children?

3. What kinds of things do you talk about with your child?

4. In the last 7 days, how many times have you read or looked at books or others things to read with your child, or listened to him/her read?

5. In the last month, how many times have you taken your child to the library?

6. When you have time to play with your child, what do you do?

II. Child Reading and Writing

1. In the last 7 days, how many times has your child looked at or read books, newspapers, or magazines?

2. In the last 7 days, how many times has your child written any words or messages on paper, or doodled, or drawn any pictures?

3. In the last month, how many times have you hung up any of your child's papers or drawings?

III. Literacy Materials at Home

1. What kinds of reading or writing materials do you keep at home for your children?
2. In the last month, how many times have you bought or borrowed books or reading materials for your child?
3. In the last month, how many times have you supplied your child with writing materials?

IV. Modeling

1. At home what reading and writing do your children see you doing?
2. In the last 7 days, how many times did your child see you reading or writing something?

V. Parental Knowledge of Age-Appropriate Expectations

(Scale 1-4: Disagree=1; Disagree Somewhat=2; Agree Somewhat=3; Agree=4)

1. Young children learn best when adults teach them rather than through play.
   1 2 3 4
2. Children learn to read by being read to by an adult or older sibling.
   1 2 3 4
3. When children first attempt to write, they often get the letters mixed up.
   1 2 3 4
4. When reading something aloud for the first time, children may mispronounce or misread some of the words, but learn to correct themselves so that the reading makes sense.
   1 2 3 4
5. When writing, children should be encouraged to try many different ways until they know just how they want to say something.
   1 2 3 4

**Adapted from Mikulecky & Lloyd, 1994*

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